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Artwork provided by

Adrian Tyler Anderson
College of Visual and Performing Arts
Class of 2005

INTRODUCTION

On behalf of the faculty, staff, and students in the College of Arts and Sciences, I want to thank you for your interest in this collection of abstracts of undergraduate research for 2003. This collection is the first we have published, and we expect it to be number one in a long and increasingly impressive series.

The importance of this collection is what it represents. These abstracts are the results of untold hours of hard work by students and faculty. Through that work, students have learned much about the research process, developed important critical and analytical thinking skills, improved writing abilities, and deepened relationships with faculty mentors. Many students have presented their research in classes, through seminars, and at professional meetings. In this work, faculty have been challenged to push students to do the best they can, to let them flounder as they struggle to solve the problems at hand, to hold them to deadlines, and to know how to encourage and when to scold. I know from personal experience that working together on meaningful research is a powerful way to build lasting relationships between students and faculty members.

I want to congratulate each student whose work is represented here and each faculty member involved in that work; this collection represents a significant accomplishment for all.

Tom Moore
Dean of the College of Arts and Sciences
Winthrop University

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.

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ABSTRACTS FROM PUBLISHED PAPERS

SUICIDAL STATEMENTS MADE BY CHILDREN WHO WITNESS FAMILY VIOLENCE: A BLACK AND WHITE COMPARISON. (2002) Manetta, A. A., and Pendergast, A. In Serge P. Shohov, Ed. *Advances in Psychology Research, Volume 10*, pages 13-27. Reprinted in *Perspectives on Violence* (2002) Frederick K. Blucher, ed. Chapter 3, pp. 21-34. Nova Publishers, Hauppauge, NY.

Student: Amy Pendergast (2002)
Faculty Mentor: Ameda Manetta, Ph.D., MSW, LCSW
Department of Social Work

There are few studies that compare racial differences among black and white child witnesses of family violence who make suicidal statements. This article compared the family violence factors that were present in cases of children who made suicidal statements. One hundred and fifty-one women who were receiving counseling or shelter services as a result of being in a battering relationship completed questionnaires. This report is based on the report of a sub-sample of 125 women with at least one child under the age of 16 years. Fourteen percent of African American children and 28% of white children made suicidal statements. Children who were hit in a physically abusive manner were more likely to make suicidal statements; there were no racial differences. Racial differences indicated that African American children with a history of family suicide were significantly less likely to make suicidal statements than white children with a history of family suicide.

THE CHURCH – DOES IT PROVIDE SUPPORT FOR ABUSED WOMEN: DIFFERENCES IN THE PERCEPTIONS OF BATTERED WOMEN AND PARISHIONERS. Manetta, A. A., Bryant, D. F., Cavanaugh, T. E., Gange, T.

Article submitted to *Journal of Religion and Abuse*, resubmitted on January 20, 2003 and accepted for publication in Summer 2003 issue.

Students: Dianne Bryant (2003), Teresa Cavanaugh (2003), and Tracy-Ann Gange (2003)
Faculty Mentor: Ameda Manetta, Ph.D., MSW, LCSW
Department of Social Work

The role of religion in the prevention, fostering, and awareness of domestic violence is an understudied area in society. The church has an enormous impact on the lives of over 111 million people in the United States and could be a vehicle for helping stem the problem of abuse against women in society. This paper uses a South Carolina sample to describe the perceptions of 199 parishioners and 57 battered women attitudes toward whether church teaching contributes to domestic violence, whether women should be submissive toward their husbands, and formal services offered by churches. Different perceptions emerged. More battered women believed church teaching contributed to domestic violence. Neither group believed that women should be submissive toward spouses. Also included is a description of the similarities and differences in formal services the two groups believed were available to battered women.

HONORS THESIS ABSTRACTS

RQ, OXYGEN CONSUMPTION AND EFFICIENCY DURING SUB-MAXIMAL EXERCISE IN TRAINED AND UNTRAINED COLLEGE FEMALES. Yount, S.
Presented to the Department of Biology, Winthrop University, April 23, 2003.

Student: Sarah Yount (2003)
Faculty Mentor: James Johnston, Ph.D.
Department of Biology

Twenty college age females were tested in order to observe differences in metabolic efficiency during sub-maximal exercise between trained athletes (n = 9) and untrained non-athletes (n = 11). The participants exercised on a bicycle ergometer while their respiratory volumes and gas composition of exhaled air were monitored on a Sensor Medic Respiratory Analyzer. Subjects' heart rates were monitored with ECG electrodes. Data were collected on heart rate, work, oxygen consumption, carbon dioxide production, RQ, and minute ventilation during rest, sub-maximal exercise, and recovery. From this data, energy input (Kcal/min from O₂ consumption and RQ), energy output (Kcal/min from watts produced pedaling the bicycle ergometer), and percent efficiency (Kcal output/ Kcal input x 100) were calculated for both groups. The results showed that trained athletes and untrained non-athletes had equal rates of oxygen consumption regardless of the level of submaximal work. There was no significant difference in percent efficiency between the two groups. It increased in a quick, linear fashion to 23% by 40 watts of work and reached a fairly stable plateau around 27% between 60 and 180 watts of work). The RQ values dropped steadily for both groups at the onset of exercise (up to 45 watts). Thereafter it increased steadily, reaching 1.0 in the untrained group by 150 watts and by 210 watts in the trained athletes. Regardless of workload, the RQ of trained athletes was always lower than that of untrained non-athletes and significantly so at 30, 90, and 150 watts of work. Overall, the athleticism of the trained group was reflected by significantly lower RQ values, but not by differences in VO₂ or percent efficiency. This indicates that, even at submaximal workloads, athletes are better able to get more of their energy from fats than are untrained non-athletes. It is also clear that this difference is not due to an inability of the untrained non-athletes to consume oxygen.

BIOMECHANICS OF THE PHARYNGEAL MUSCULATURE IN *Stenostomum*. Davis, H.
Presented at the Beta Beta Beta Regional Convention, held in conjunction with the Association of Southeastern Biologists Annual Meeting, Arlington, VA. April 11, 2003
Presented to the Department of Biology, Winthrop University, April 17, 2003.

Student: Harold Davis III (2003)
Faculty Mentor: Julian Smith III, Ph.D.
Department of Biology

The pharyngeal muscles of the platyhelminth *Stenostomum* are a subject that has not received much attention from zoologists. E.W. Pullen described the muscles of the pharynx consisting of both longitudinal and circular layers. J.P. Jennings noted the flaring motion the pharynx made during feeding. *Stenostomum* flares its pharynx which creates a vacuum causing the prey to be sucked into the lumen of the pharynx. The process is of particular interest as *Stenostomum* should not be capable of maintaining a vacuum as they have a low-pressure hydrostatic skeleton. Although muscles associated with the pharynx have been identified, the exact mechanism that would allow the *Stenostomum* to sustain a distended pharynx has not been studied. In order to characterize the feeding movements, the flatworms were video taped while feeding, focusing on the anterior portion of the body. Also, specimens were stained with fluorescently labeled phalloidin, highlighting the F-actin of their musculature and displaying the organization of the muscles of the pharynx. The data suggest that the body was not involved in the flaring of the pharynx. The sphincter muscles seem to isolate the pharyngeal region in order to temporarily put the region under high pressure. Radial muscles near the rear of the pharynx appear to be used to pull the pharyngeal region out and longitudinal muscles pull and shorten the pharynx ventral dorsally. Using all these muscles, *Stenostomum* was able to put the pharyngeal region of its body temporary under high pressure, allowing the organism to create a high-pressure flare.

DETERMINATION OF POPULATION DYNAMICS OF DE BRAZZA'S MONKEYS (*Cercopithecus neglectus*). Cloy, J.

Presented at the Beta Beta Beta Regional Convention, held in conjunction with the Association of Southeastern Biologists Annual Meeting, 2002. Presented to the Department of Biology, Winthrop University, April 23, 2003.

Student: Jessica Cloy (2003)

Faculty Mentors: Dwight Dimaculangan, Ph.D., and Janice Chism, Ph.D.
Department of Biology

The purpose of this project is to amplify the entire mitochondrial displacement (D) loop of captive de Brazza's monkeys (*Cercopithecus neglectus*) to establish a method for determining matrilineal relationships. The de Brazza's monkey population is dwindling rapidly due to animal trade, habitat destruction, range fragmentation, and cultivation. Field studies have yet to determine conclusively the social dynamics of this species; however, observations do suggest male and female dispersal occurs. If female dispersal takes place in this species, it would have a major influence on conservation efforts, specifically the introduction of animals into areas with already established groups. In order to test the hypothesis of female dispersal, we are first establishing molecular techniques to determine genetic relationships of captive de Brazza's of known genealogy. We have successfully amplified, subcloned, and sequenced a 450 bp region of the Displacement (D) loop from the mitochondrial genome of three de Brazza's from Riverbanks Zoological Park in Columbia, South Carolina. The current focus of this study is to sequence the entire D-loop (~1250 bp) of captive de Brazza's from other zoos in the United States. Previously, the de Brazza's mitochondrial genome has not been characterized. The hypervariable sequences in the D-loop mutate up to five times the rate of the rest of the mitochondrial genome. The high mutation rate and matrilineal inheritance of the mitochondrial genome make it useful in determining intraspecific patterns of variability and relationships of closely related individuals. We have designed a series of primers using sequence homology of conserved genes that surround the D-loop from other related primate species. In addition, we have optimized the mitochondrial DNA extraction and storage protocols. The results from this research will act as preliminary data for proposals to conservation-oriented granting agencies.

PAIR INTRODUCTION AND SOCIAL INTERACTIONS OF TWO UNRELATED CAPTIVE DE BRAZZA'S MONKEYS (*Cercopithecus neglectus*). Sherenco, K.D.

Presented at the Carolina Psychology Conference, North Carolina State University in Raleigh, NC, on April 12, 2003.

Presented at the Senior Thesis Colloquium on April 14, 2003.

Student: Katrina Dianne Sherenco (2003)

Faculty Mentor: Janice Chism, Ph.D.
Department of Biology

Introducing unrelated and unfamiliar captive animals to a group or a partner is a common and essential process within zoological settings in order to maintain group size and psychological well-being. Previous research on group formation and reformations, however, mainly focuses on chimpanzees (Fritz, 1994). The de Brazza's monkey (*Cercopithecus neglectus*) is a guenon species commonly exhibited within North American zoos (Brennan, 1985), yet their introductory processes, social development, and interactions have not been widely researched. Within their natural environment, de Brazza's monkey troops typically consist of one adult male, two or more adult females, and a various number of subadults and infants. Wild monkey troops typically remain fairly stable. Thus, group and partner reformation within this species is probably uncommon within the natural environment, but is necessarily common within zoological settings due to death, partner incompatibility, or population management needs. This study focuses on the introduction and social interactions of a pair of unfamiliar, unrelated de Brazza's monkeys. This pair consisted of an eight-year-old female and a fourteen-year-old solitary male already on exhibit at Riverbanks Zoo in Columbia, SC. These subjects were introduced in stages modeled on those described by McNary (1992). During the baseline and the staged introduction, a modified focal sampling method (Altmann, 1974) was used in which observers concentrated on the adult male but also recorded the female's behavior when this could be seen. Once the pair was together in the exhibit ad libitum sampling (Altmann, 1974) was used. Throughout the study each observation session lasted one hour and a total of 50 hours of observation were collected. Because observers were able to be in close proximity to subjects, they were able to collect data on vocalizations that often cannot be heard in the wild or in noisy zoo settings. Since the male de Brazza's had a history of minor aggression during previous introductions and reintroductions with other

female cage mates, we predicted that he would exhibit antagonistic behaviors such as physical attack, head bobbing, stares, and open mouth grimaces toward the newly introduced female. We also predicted that affiliative behaviors such as grooming, approach, contact, and sexual behaviors would increase with the amount of time that these two monkeys were together. However, antagonistic behaviors were few in number while the frequency of affiliative behaviors, proximity, and sexual behaviors were unexpectedly high during the introductory stages and peaked during the middle subdivision category of the 19 total full access observation periods. The introduction of these two captive de Brazza's monkeys was successful, in that the animals showed mostly positive social interactions with few antagonistic behaviors. In conclusion, despite the lack of information on social interactions and pair introductions of monkeys of this species, the introduction technique of providing visual contact and, then, the addition of olfactory and tactile contact proved quite effective.

MIRROR, MIRROR: THE LOOKING GLASS EFFECT OF THE AMERICAN EXECUTIVE ON THE LAST DECADE OF FILM. Osborne, J.L. Presented at the Senior Honors Thesis Colloquium, April 14, 2003.

Student: Jennifer L. Osborne (2003)
Faculty Mentors: Scott Huffmon, Ph.D.; Timothy Boylan, Ph.D.; and John Holder, Ph.D.
Department of Political Science

This paper addresses the topic of how the executive branch has affected the films over the last decade, from 1990-2000. It focuses on two major issues: how personal affairs affect one's ability to govern and the temptation for the abuse of power. Regarding the Clinton scandal, public opinion polls show that people in general do not associate one's ability to lead with their personal affairs, regardless of how immoral they may seem. Hollywood similarly answered this question in several movies including *Primary Colors* (1998) and *The American President* (1995). Hollywood incorporated the abuse of power issue in *Nixon* (1998), *Murder at 1600* (1997), and *Absolute Power* (1997) by exposing the various cover-ups the presidential characters were involved in and trying to provide some clarity on the motives behind their actions.

In response to presidential characters of questionable moral character and obstruction of justice at its highest level, filmmakers of the nineties also made

several movies emblemizing a chief executive with many idealistic qualities and notions. Movies such as *Dave* (1993) and *Air Force One* (1995) fit this category with courageous presidents who seem to be just what the country needs. Despite this, the realization still exists that real life politics and policy decisions are indeed rather difficult, and Hollywood's solutions can be nothing more than embellishment of fact for entertainment value. As the majority of the political films released in the nineties revolve around the presidency, the American Executive has greatly influenced the filmmaking of the last decade. People tend to find most entertaining that which rings most true.

THE EXPULSION OF CUBA FROM THE ORGANIZATION OF AMERICAN STATES, JANUARY 1962

Student: Laura S. Howe (2003)
Faculty Mentor: Virginia Williams, Ph.D.
Faculty Advisors: Andrew Doyle, Ph.D., and Scott Huffmon, Ph.D.
Departments of History and Political Science

How exactly did the expulsion of Cuba from the Organization of American States come about? A topic not much discussed and one that is generally footnoted in history books, if mentioned at all, my thesis is intended to shed light on the first real international incident that led to such hatred between the United States and Cuba. When Fidel Castro took power January 1, 1959, his action and his new government were applauded and seen as the savior of Cuba. However, within three months tension started between the United States and its island neighbor. Within a year, serious accusations were being thrown between the two nations; and just over two years after the Revolution, Cuba was expelled from the same group that applauded his actions in 1959. Why did this happen? Cuba was seen as a potential ally for the United States when the Batista regime fell; however, Castro decided not to accept the United States' hand, but instead aligned Cuba with the Sino-Soviet bloc, creating a threat to the United States that just couldn't be stood for. But the Organization of American States was not a group of just two nations. Surely the expulsion required the acceptance of the other nineteen countries within the organization? So was this expulsion a multilateral action? Indeed it was not a true multilateral action taken against Cuba. Although the expulsion of Cuba from the Organization of American States was multilateral on a superficial level, it was really a unilateral action

taken by the only superpower in the Western Hemisphere, the United States.

DOMESTIC VIOLENCE POLICY AND THE CRIMINAL JUSTICE SYSTEM IN SOUTH CAROLINA

Student: Jessica M. Copeland (2003)
Faculty Mentor: Michael Lipscomb, Ph.D.
Department of Political Science

The dominant views in society that posit women as subordinate to men serve as justification for men's violence against women. Violence against women can include sexual assault, sexual harassment, stalking, and relationship and domestic violence. My research focuses particularly on the problem of domestic violence and its history in America, but all forms of violence are interrelated. A majority of women who leave abusive husbands are stalked afterwards, and many are eventually murdered. Rape and other forms of sexual assault can occur quite frequently in physically or verbally abusive relationships as well. The South Carolina Coalition Against Domestic Violence and Sexual Assault (SCCADVASA) defines domestic violence as "a learned behavior and culturally reinforced pattern of behavior that, without intervention, becomes more destructive over time. Battering is a pattern of violence, coercive behavior and threats that is intended to control another person's thoughts and conduct. The abuse can be emotional, psychological, physical, and/or sexual" (Sistercare). Yet, other definitions go further to include reasons for the abuse. Michael McKenzie in *Domestic Violence in America* defines spousal battery as acts performed by men in order to control and dominate women in order to maintain the existing gender inequality (8).

Throughout my research on the history of domestic violence laws, I have found that the problem of spousal abuse was recognized quite early on. In the 1600s the Puritans wanted to make wife beating illegal, but their motivation was to preserve the family as a sacred institution fit to be placed before God, not to protect women and their rights as individuals. Many other laws outlawing or punishing abusive behavior were passed for similar reasons. They were put in place to maintain social institutions but did nothing to deal with the real problem of domestic violence. In effect, the attitudes supporting domestic violence never changed because the purpose was not to promote equality. As long as

wives are viewed as the property of their husbands, men will continue to feel as though they have the right to hit their wives.

It was not until 1994 that the Violence Against Women Act linked equality with violence. This was a huge step in confronting spousal abuse, especially since over four years was spent fighting for its passage. History has shown that the more radical the piece of legislation, the less likely it is to pass. Even though many laws have been put on the books that afford women protection from their abusers, there seems to be a limit to the kinds of bills that will be accepted. The antebellum feminists were unsuccessful at convincing legislators of the need to reform divorce laws, which was a radical proposal at the time. They believed that women should be autonomous and free to divorce their drunken and abusive husbands, but the feminists' attempts at reform failed.

I have documented the history of domestic violence legislation in America and then focused on more recent efforts at combating the problem of domestic violence by analyzing current laws and the criminal justice system in South Carolina, particularly York County. Throughout history the focus has remained on blaming the victim and not on looking at the root of the problem. Unchanging attitudes and perceptions, particularly about the place of women in the home, are evidence of this. Until women receive true equality, not only in the eyes of the law, but also in the eyes of the people, domestic violence will continue to haunt over four million women every year.

WOMEN'S ELECTORAL SUCCESSES AND FAILURES IN AN INTERNATIONAL CONTEXT

Student: Bonnie Sowa (2003)
Faculty Mentor: Jennifer Disney, Ph.D.; Chris Van Aller, Ph.D.; & Michael Lipscomb, Ph.D.
Department of Political Science.

This thesis is an expansive analysis of the paucity of women representatives in national legislative office. It depicts the attitudinal and structural reasoning behind the under-representation of the female population. This thesis delves into aspects of the role of sex-role stereotypes and its effect upon women's attitudes towards running for office, as well as aspects of political institution's structural constraints.

The thesis not only examines the United States, but also includes an international perspective by including countries such as Norway and Sweden, which are ranked among the top countries for the representation of women, as well as various other countries in Europe and Latin America. Such research provides crucial information on what hinders and promotes women's leadership within governmental institutions and how these elements ultimately affect a woman's electoral success. Following such attempts to discover the reasons behind women's under-representation, the thesis continues to analyze women once in positions of political power, in order to observe women's behavior and performance in office and to discern women's effectiveness as representatives of women's interests and desires.

CIVIL LIBERTIES IN TIMES OF WAR

Student: Erin Urquhart (2003)
Faculty Mentors: Timothy Boylan, Ph.D., David Meeler, Ph.D., and Michael Lipscomb, Ph.D.
Department of Political Science
Department of Philosophy and Religious Studies

Civil liberties are defined as fundamental individual rights, protected by law against unwarranted governmental interference. This balance has historically been thrown off during times of threatened national security. During times of war, normally protected liberties such as Freedom of Speech, the Freedom of Assembly, the rights of the criminally accused, and the right to privacy are overlooked as a justified means of protection. This paper is a historic look at civil liberties during the Revolutionary Era, Civil War, World War I, World War II, the Cold War and Vietnam, and aims to promote a better understanding of what the post 9-11 situation of the United States in global politics may mean for American civil liberties.

The history of civil liberties protection in America does not make a good case for their protection given the Wars on Terrorism and Iraq. As cases reach the Supreme Court in the coming years, the justices will have to decide how far government abridgement of rights can flow before the ebb of peacetime protection. There is little denial that terrorism must come to an end. With little opposition to the overall goals of the war on terrorism, the United States may not see the Supreme Court limiting civil liberties on a grand scale in this post 9-11 climate.

HOME OF ABUNDANCE: DEVELOPMENT STRATEGIES FOR POSTCONFLICT KURDISH IRAQ

Student: Christina D. Goodman (2003)
Faculty Mentors: Scott Huffman, Ph.D., Jennifer Disney, Ph.D., and Chris Van Aller, Ph.D.
Department of Political Science

The Kurds in northern Iraq have been under the oppressive regime of Saddam Hussein for thirty years. Now that the regime is overthrown, the Kurds' future is uncertain. In the past several years, under the U.S. enforced "no-fly-zone," Kurdish Iraq has used the 13 percent of Iraq's oil revenue it receives under the U.N. Oil-for-Food program to distribute food; buy medical supplies; and build schools, parks and even five-star hotels. In order to improve the current condition of Kurdish Iraq, development strategies must be considered, applied to the region and implemented immediately following the current conflict. The cultural identity of the Iraqi Kurds must be taken into account in the process in order to legitimize development activities and encourage local participation. The cultural tenants of the Kurdish character of *pahlawân*, the isolation of the mountains, the vibrancy of the mountain wildflowers, and the local political focus of tribal governments all affect a development strategy's cultural relevance. Traditional development strategies such as nation-building, reactive development, and need-based development all ignore the cultural tendencies of the Kurds, and therefore should not be applied in the region. On the other hand, innovative development strategies – postconflict reconstruction, proactive development and asset-based development – consider cultural differences between societies, and thereby can be applied to Kurdish Iraq. The first strategy, postconflict reconstruction, creates a stable environment for long-term growth in a society that has recently resolved a major military conflict. Proactive development ensures that stability continues to foster economic and societal development in the future. Asset-based development seeks to inventory the skills of individuals, the involvement of associations, and the contributions of institutions. To coordinate these development activities within both the international community and the local Kurdish Iraqi communities, a Kurdish development council should be created, and a Community Development Credit Union should be established in the area to fund local projects

**ANDROPOV REVISITED: LEADERSHIP AND
POLICY REFORM IN THE USSR** Ellis, J.

Presented at the 64th Annual Pennsylvania Political
Science Association Conference Villanova
University, Villanova, PA, April 2002 under the title
*Obscure Andropov: Yuri's Policy Changes and
Policy Outcomes in the Former Soviet Union*

Student: Joseph Ellis (2003)

Faculty Mentors: Jennifer Disney, Ph.D., David
Pretty, Ph.D., and Stephen Smith, Ph.D.

Department of Political Science

Despite the popularity of Soviet political study in the 1980s, one significant lapse in scholarship existed — an analysis of the Yuri Andropov era. Andropov, the enigmatic leader of the Soviet Union from 1982 through 1984, was in power for just fifteen months, but his importance to Kremlinologists and political scientists is often overlooked. The purpose of this paper was to put Andropov in proper perspective and determine his impact in the Soviet Union.

Several Soviet scholars introduced competing theories about the manner in which Soviet politics operated during the Leonid Brezhnev years. These scholars debated the aspects of totalitarianism and pluralism that existed in the Soviet Union. More importantly, they reflected on the future of Soviet politics: What would happen after Brezhnev? I revisit this debate to include Yuri Andropov in their theories and analyze to what extent they were right and where they went wrong. As well, several theories were developed that diagnosed the problems of reform in socialist economies. I include Andropov in their models and determine how successful his reforms in the agriculture and industry sectors were.

In the end, it appears that Andropov develops his own course in Soviet politics. In the manner he leads the USSR, he is both a mixture of entrenched totalitarianism and liberalized pluralism. In domestic reform, Andropov represents a type of moderate reformer, keeping many of the aspects of the “old system” of reform while opening up and liberalizing others. In terms of impact, Andropov appeared to be the bridge between the stagnant Brezhnev era and the openly, liberalized Gorbachev era. Andropov, in short, was instrumental in the development of Soviet politics in the 1980s.

MEETING ABSTRACTS

IS THE TRADITIONAL DEFINITION OF MENTORING OBSOLETE? A COMPARISON OF MENTORING MODELS AND PERCEIVED BENEFITS

Holly Sullivan, Julie Songer, Katrina Sherenco, and Roger Baumgarte
Presented at the Southeastern Psychological Association Conference, New Orleans, March 26-30, 2003.

Students: Holly Sullivan (2004), Julie Songer (2003), and Katrina Sherenco (2003)
Faculty Mentor: Roger Baumgarte, Ph.D.
Department of Psychology

Mentoring research has typically focused on a single, dyadic, career-centered relationship between a senior-level mentor and a junior-level protégé. Given trends in today's workforce, current employment patterns may be too fluid to provide ample opportunity for this traditional style of mentoring. In this study, 155 survey respondents in large organizations chose between three models of mentoring on the basis of which fit their own experiences best. We found that only a small minority of respondents saw the traditional model as fitting their work experiences. Most saw themselves as having a network of mentors (especially women) or no mentor at all (especially men). Despite its infrequency, the traditional model of mentoring was seen as the most beneficial. Consistent with Higgins and Kram (2001), our results suggest that the traditional model of mentoring needs to be reconceptualized.

THE RELATIONSHIP BETWEEN MOVEMENT AND THE BODY-WALL MUSCULATURE OF *Parotoplana, sp.* Maloney., A.M.

Presented at the Beta Beta Beta Regional Convention, held in conjunction with the Association of Southeastern Biologists Annual Meeting, Arlington, VA. April 11, 2003.

Student: Andrea M. Maloney (2003)
Faculty Mentor: Julian Smith III, Ph.D.
Department of Biology

It has long been thought that flatworm motion was created by a hydrostatic skeleton combined with longitudinal and circular muscles. Work done by Tyler and Hooge has shown that there are alternative arrangements. Specimens of the ribbon-like

Parotoplana sp. (Class Turbellaria, Order Proseriata, Family Otoplanidae) were extracted from sand samples that were taken from the coasts near Wilmington, NC. The movements of the worms extracted from these samples were observed using bright-field video microscopy. Motions that were observed include rotation and curling of the body, compression along the length of the organism, compression dorso-ventrally, side-to-side head wagging, peristaltic waves along the body length, and pharyngeal movement. In order to make the muscle fibers of the worms stand out, several worms were labeled with TRITC and Alexia 488 phalloidin stain. These worms were then observed using fluorescence microscopy and laser-scanning confocal microscopy. The muscles arrangements that were observed were then related to the motions demonstrated by *Parotoplana sp.*

WHICH IS BETTER FOR PARENTS: SOCIAL SUPPORT FROM HOME PROVIDERS OR CENTER PROVIDERS?

Fortner-Wood, C., Elicker, J., Noppe, I., & Songer, J.
Proposal accepted for presentation at the Biennial Meeting of the Society for Research in Child Development, Tampa, FL, April 2003.

Student: Julie Songer (2003)
Faculty Mentor: Cheryl Fortner-Wood, Ph.D.
Department of Psychology

Social support continues to be considered a powerful influence because of the positive impact it can have on parenting behavior (see Ceballo & McLoyd, 2002). We explore the differences in and the effects of the support given to parents by their child's caregiver. Two main research questions are addressed: 1) Is there a difference in the efficacy of the support given by family child care (FCC) providers and center-based providers? and 2) Does provider support to parents function as a direct predictor of child outcomes, or as a mediator or moderator of the relationship between parenting and child outcomes.

Sixty-five mothers of infants in center care and 41 mothers of infants in FCC were interviewed about the support they receive from their child's caregiver. Also, infant-parent Attachment security (AQS; Waters & Dean, 1985) and interactions (Howes & Stewart, 1987) were assessed. One year later, child outcome data were collected in the home and in child care. Toddler curiosity (based on Henderson & Moore, 1984; Mayes, Carter & Stubbe, 1993) and

level of object play (Howes & Stewart, 1987) were observed in the home. Peer play level (Howes & Stewart, 1987) was observed in the child care setting. Mothers completed the Child Behavior Checklist (CBCL; Achenbach, 1983).

Our findings suggest that support from FCC providers is better in some ways than support from center providers. Parents of infants in FCC were more likely to list their child's caregiver without being prompted ($\chi^2=16.771, p<.001$). Parents of infants in FCC were more likely to list their child's caregiver as the most supportive member of their support network ($\chi^2=8.185, p<.005$). Parents of infants in FCC also listed more different types of social support received from their child's caregiver ($\chi^2=15.143, p<.005$). Finally, parents of infants in FCC rated the quality of the support they receive from their child's provider higher than did parents of infants in center care ($F=6.372, p<.05$).

The findings here are somewhat indicative of a direct relationship between provider support and child outcomes, but not of mediation or moderation models. Because of the differences in support described above, type of care was considered in these analyses. Overall, it was a better predictor of child outcomes than provider support. Type of care during infancy was associated with toddler peer play, object play, externalizing behavior, and exploratory behavior ($F_s=22.833-226.553, p_s<.001$). However, whether or not the parent listed the child care provider as a source of social support without a prompt was significantly associated with parents' ratings of toddler externalizing behavior ($F = 12.966, p <.005$). When this was included with type of care in the analyses, type of care was no longer associated with externalizing behavior.

While there was not a significant difference in attachment security between the two types of child care, center-based dyads had higher levels of parent-child interaction ($F=17.687, p<.001$). These findings and others will be discussed along with the implications for parents and children.

IS CAREGIVER SOCIAL SUPPORT RELATED TO CHILD CARE EXPERIENCES AND DEVELOPMENTAL OUTCOMES? Fortner-Wood, C., Elicker, J., Noppe, I., & Brooks, L. Presented at the Biennial Conference on Human Development, Charlotte, NC, 2002.

Student: La'-Ruth Brooks (2002)
Faculty Mentor: Cheryl Fortner-Wood, Ph.D.
Department of Psychology

While the evidence regarding the benefits of higher quality care for children's long term outcomes continues to mount (for recent evidence see NICHD Early Child Care Network, 1999; 1998), there continues to be little exploration of the caregiver variables which play a role in shaping the quality of care. In our previous work with infants in center and family day care, we found certain measures of caregiver support are strongly related to the quality of early care environments. In this poster, we build on our previous work by (1) exploring relationships between social support and other measures of the child's experience in care, (2) considering the nature of the link (indirect or direct) between caregiver social support and child outcomes, and (3) investigating the potential role of the parent-caregiver relationship on these links.

Thirty-nine infants, their mothers, and child care providers participated in this two-phase study of infants in center care. When the infants were 12-18 months old, caregivers and parents were interviewed about the support they received "in caring for this particular infant." Questions about support included listing supporters, rating quality of support, specifying the types of support received, (i.e., information) and describing the nature of their relationship with each supporter (e.g., relative, co-worker). Also, caregivers rated their relationship with the parent using the Parent-Caregiver Relationship Scale (PCRS; Elicker, Noppe, Noppe, & Fortner-Wood, 1997). Attachment security scores (Waters & Dean, 1985) and ratings of adult-child interaction (Howes & Stewart, 1987) were based on two center and one home observation(s). Average overall ratings of quality of infant centers care based on the Infant/Toddler Environment Rating Scale (Harms, Cryer, & Clifford, 1990) were used in these analyses. When the children were 24-36 months old, parent-reports of their toddler's mastery motivation, observer ratings of children's peer, adult, and object play in the centers, PPVT scores (PPVT, 1996), and caregiver reports of the child on the Child Behavior Checklist (Achenbach, 1988) were collected. Caregiver social support was positively related to

child care experience variables (e.g., quality $r = .42$ $p < .005$ and adult-child ratios $r = .49$, $p < .005$) and to caregiver interaction, which was in turn related to infant-caregiver attachment security. Neither CG SS nor child care quality was related to infant-caregiver attachment security, suggesting CGSS is indirectly related to attachment (through interaction; see Figure 1).

The link between caregiver social support and child outcomes appears to be indirect (through child care quality and caregiver-child interaction). The only child outcome measure directly related to caregiver social support was social persistence with adults ($r = .34$, $p < .05$). Surprisingly, the parent-caregiver relationship did not appear to play a role on the model of links between CG SS and infant care experiences as PCRS ratings were not related to CG SS or child care quality. Additional findings from this data set, possible explanations for these findings, and future plans for studies of caregiver social support will also be discussed.

WHY IS THE SOCIAL SUPPORT OF CHILD CARE PROVIDERS RELATED TO THE QUALITY OF THE CARE THEY PROVIDE INFANTS? Fortner-Wood, C., Elicker, J., Noppe, I., & Brooks, L.

Presented at the Biennial meeting of the International Society on Infant Studies, Toronto, Ontario, 2002.

Student: La' Ruth Brooks (2002)
Faculty Mentor: Cheryl Fortner-Wood, Ph.D.
Department of Psychology

In this study, we investigated why the social support of childcare providers is related to the quality of the care they provide infants. We explored other social support and caregiver characteristics that may play a role in the relationship between social support and quality of care provided by center and family daycare home caregivers. Infant care providers from centers and family day care homes participated. The number of supporters was the focal social support variable and was related to the quality of infant care in both centers and homes. The results indicate the length of time working in that child care setting, number of co-workers and number of relatives listed as supporters may differentially play a role in the relationship between social support and quality of care for center and home care providers.

THE PREPARATION AND CHARACTERIZATION OF CATHODE MATERIALS FOR LITHIUM BATTERIES.

Williams, K.C., Wennefors, C., and Kullberg, L.
Presented at the Annual Meeting of the South Carolina Academy of Sciences, Clemson University, March 21, 2003.

Students: Kimberly Williams (2003), Charlotta Wennefors (2002)
Faculty Mentor: Lennart Kullberg, Ph.D.
Department of Chemistry, Physics, and Geology

The LiMn_2O_4 spinel is one of the most promising cathode materials for rechargeable lithium ion batteries because of its low cost, low toxicity, and high energy density. Recent studies have focused on the problem of capacity fading of this material when the charge and discharge cycles are repeated. Partial substitution of manganese ions for other transition metals has been shown to improve the stability of LiMn_2O_4 upon cycling. Cations such as Ni^{2+} , Cu^{2+} , and Cr^{3+} have proven to be effective. Unfortunately, doping with these cations decreased the capacity because the valences of dopants are usually less than four, which decreases the amount of Mn^{3+} in the spinel. In this study we prepared V^{5+} and Co^{2+} substituted lithium manganese oxide cathode materials. Electrochemical properties of the prepared materials will be presented.

ELEMENTAL COMPOSITION OF HUMAN URINE SAMPLES BY ICP-OES AND A SOFTWARE APPROACH. Dixon, J.T., and Calloway, C.P.

Presented at the Annual Meeting of the South Carolina Academy of Sciences, Clemson University, March 21, 2003.

Student: Jerry T. Dixon (2003)
Faculty Mentor: Cliff P. Calloway, Ph.D.
Department of Chemistry, Physics, and Geology

Trace level concentrations of certain elements in the body are known to cause chronic diseases. Urine samples, for example, have been used to screen for some of these elements. However, screening for many elements can be a time-consuming process. An ICP spectrometer equipped with a multichannel detector is well suited to screen for many elements simultaneously in the mid part per billion to part per million concentration ranges, but data analysis can still be quite laborious. This research uses an ICP-CID spectrometer and locally written software

program developed to automate the qualitative scheme to rapidly screen human urine samples, while providing approximate concentration ranges.

PRODUCTION OF A RECOMBINANT C8 α PROTEIN FRAGMENT FOR STRUCTURAL ANALYSIS. Bork, D., Murphy, K., Chiswell, B.,

Sodetz, J.M., and Parker, C.L.
Presented at the Annual Meeting of the South Carolina Academy of Sciences, Clemson University, March 21, 2003.

Students: Devon Bork (2004), Kelly Murphy (2004)
Faculty Mentor: Chasta Parker, Ph.D.
Department of Chemistry

C8 α is a 64 kDa subunit of human complement component C8, which is one of five components (C5b, 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 and 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)

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

LIGANDS. O'Neal, J., Grattan, T.C., and Reger, D.L.

Presented at the National Meeting of the American Chemical Society, New Orleans, March 23, 2003.
Presented at the Annual Meeting of the South Carolina Academy of Sciences, Clemson University, March 21, 2003.

Student: Jennifer O'Neal (2004)
Faculty Mentor: Christian Grattan, Ph.D.
Department of Chemistry, Physics and Geology

The synthesis of tris (3-tert-Butyl pyrazolyl) methane ligands substituted on the central methine carbon will be presented. These substitutions allow for alterations in the solubility of the 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 ligands. These multitopic ligands are interesting subunits in the construction of novel nanoscale architecture.

A NOVEL, CONCISE SYNTHESIS OF 4-ALKYL AND CYCOALKYL PYRAZOLES.

Smith, M., Grattan, T.C., Gardinier, J., and Reger, D.L.

Presented at the Southeastern Regional Meeting of the American Chemical Society, Charleston, SC, November 18, 2002.

Presented at the Annual Meeting of the South Carolina Academy of Sciences, Clemson University, March 21, 2003

Student: Monica Smith (2003)
Faculty Mentor: Christian Grattan, Ph.D.
Department of Chemistry, Physics and Geology

A new more efficient synthetic pathway for the synthesis of 4-alkyl and cycloalkyl pyrazoles will be presented. This three-step approach combines known methods into a procedure to give higher yields and straightforward synthesis of these compounds. The unique properties characteristic of these derivatives, along with their synthetic implementation, will also be presented.

LIQUID SAMPLE INTRODUCTION IN A GLOW DISCHARGE SYSTEM. Lundy, M., and Calloway, C.P.

Presented at the Department of Chemistry's Research Seminar Meeting, Winthrop University, December 12, 2002.

Student: Mark Lundy (2002)
Faculty Mentor: Cliff P. Calloway, Ph.D.
Department of Chemistry, Physics and Geology

This research involves the adaptation of a conventional glow discharge system to accept liquid samples. Normally glow discharge is exclusively used for solid conductive samples. A modified

cathode was designed and constructed to interface a conventional glow discharge with an ultrasonic nebulizer.

QUALITATIVE ELEMENTAL ANALYSIS.

Dodds, J., and Calloway, C.P.

Presented at the Department of Chemistry's Research Seminar Meeting, Winthrop University, December 12, 2002.

Student: Jeremy Dodds (2004)

Faculty Mentor: Cliff P. Calloway, Ph.D.

Department of Chemistry, Physics and Geology

Qualitative Elemental Analysis can be a time consuming process, particularly if single element methods of analysis are used. MultiQual is a software program written to automate the elemental analysis scheme of a Thermo Jarrell Ash simultaneous ICP Emission Spectrometer. MultiQual matches the lines stored in a built-in atomic library to the spectral lines found on the spectrum, reporting back the number of lines matched, as well as location, raw and background corrected intensity for over 70 elements. There is also a direct correlation between the number of lines MultiQual finds (ranked by relative intensity) and the concentration of analyte in the sample. As such, it is possible to gain semi-quantitative information from the output of MultiQual, in addition to the qualitative information. The purpose of this project is to characterize the concentration ranges of several elements and the output of MultiQual. Finally, these semi-calibration curves are used to estimate the leaching rate of metals into water from common electronic components.

EFFECT OF MASPIN PROTEIN EXPRESSION ON VASCULAR ENDOTHELIAL GROWTH FACTOR PROTEIN EXTRACELLULAR EXPRESSION IN A PROSTATE CANCER CELL LINE. Yount, S.

Presented to the Department of Biology, Winthrop University, April 23, 2003.

Student: Sarah Yount (2003)

Faculty Mentor: Laura Glasscock, Ph.D.

Department of Biology

Vascular endothelial growth factor (VEGF) and maspin are proteins associated with angiogenesis. VEGF is expressed by human endothelial cells and in various cancer cell lines, including prostate cancer. Maspin is expressed by human endothelial cells and prostate cancer cells in vivo. The relationship

between maspin and VEGF expression in prostate cancer cells is currently unknown. This study determined if VEGF expression is effected by maspin expression in the prostate cancer cell line, LNCaP. First, LNCaP cells were used to immunoprecipitate maspin to demonstrate that prostate cancer cells produce maspin protein. Western blotting with a MAb to maspin (PharMingen #554292) verified that maspin is expressed by LNCaP prostate cancer cell lines. Second, LNCaP cell lines were treated with maspin antibody to determine if the absence of maspin would affect expression of VEGF in prostate cancer cells. LNCaP cells were treated with [10µg] maspin antibody (PharMingen #554292) in serum free media or treated with serine free media alone. VEGF was immunoprecipitated from LNCaP media and cells lysates (intracellular VEGF). SDS-PAGE and western blot analysis of the treated and nontreated cell media and cell lysate proteins were completed using MAb to VEGF (Novus #1316-250) and anti-mouse IgG-peroxidase (Sigma). Recombinant purified VEGF (Novus #9571-10) was used as a positive control. VEGF protein was visualized with ECL chemiluminescence and exposure to film for multiple time lengths. VEGF was detected in the positive control sample and the treated and nontreated LNCaP cell media. VEGF was not detected in treated and untreated LNCaP cell lysates. The immunoprecipitation, SDS-PAGE, and Western blot analysis were repeated under the same conditions. The results imply that blocking maspin decreases extracellular expression of VEGF and maspin is required for intracellular accumulation of VEGF.

PUBLIC ATTITUDES TOWARD PLANNING AND DEVELOPMENT IN ROCK HILL.

Thomas, B.J., and Huffmon, S.

Presented at the South Carolina Political Science Association meeting on February 15, 2003

Student: Billie Jean (BJ) Thomas (2002)

Faculty Mentor: Scott H. Huffmon, Ph.D.

Department of Political Science

After the closing of many of its textile mills, the City of Rock Hill faced both an economic and identity crisis. To address these needs, the city embarked on a course of economic development that included the creation of the Rock Hill Economic Development Corporation (EDC). The city and the EDC have pursued several development plans since the creation of the EDC in 1983, some more successful than others. However, in recent years, the focus has turned to smart growth through the revitalization of

the urban core. As results from a citywide survey demonstrate, the city and the EDC seem to be achieving that awkward balance of long-term, incremental policies coupled with public support of those policies.

A NOVEL METHOD FOR PLANT GENOTYPING EMPLOYING RAPD ANALYSIS OF MITOCHONDRIAL DNA.

Cheely, A.

Presented to the Department of Biology, Winthrop University, April 23, 2003.

Student: Adam Cheely (2003)

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

The aims of this research were to develop a novel method of genotyping through the use of RAPD analysis using nanogram quantities of purified mitochondrial DNA (mtDNA). The polymerase chain reaction (PCR) is commonly used in current methods of genotyping, including use of microarray technology, simple sequence repeat (SSR)-Anchored PCR, or microsatellite primed PCR, single nucleotide polymorphism (SNP) genotyping methods and random amplified polymorphic DNA (RAPD). However, all of these PCR-based genotyping methods employ whole-cell DNA. RAPD analysis is advantageous because specific primers are not required, but it generates a large number of amplified products. It would therefore be useful to design a PCR-based genotyping method using an organelle genome that would produce fewer markers and allow for simpler assessment of relatedness. The employment of RAPD developed in this research not only serves as a method for genotyping, but it can also be extremely useful when investigating plant phenomena involving structural changes in the mitochondrial genome. Such areas of investigation include research into cytoplasmic male sterility, mitochondrial diseases or any structural changes to the mitochondrial genome. Thus far there have been no methods for genotyping implementing RAPD analysis of only mtDNA. For this project three strains of plants in the subgenus *Lycopersicon* were compared: *L. pennellii*, *L. esculentum*, and *L. peruvianum*. The mtDNA was isolated by homogenizing small amounts of flower tissue in a high ionic strength buffer, pelleting the mitochondria through a series of centrifugations, DNase treating the mitochondrial suspension to prevent nuclear or plastid DNA contamination, and finally RNase treating the extracted mtDNA. Contamination from nuclear DNA was assessed through PCR, utilizing

primers for the 25s rRNA gene, while the presence of mtDNA was confirmed through PCR utilizing primers for the mitochondrial rps12 gene. DNA samples that showed small amounts of nuclear DNA amplification relative to mtDNA amplification were used in the RAPD analysis. In this analysis approximately 400 ng of template DNA was used in PCR with a random primer. The PCR products were separated by agarose gel electrophoresis to compare the generated banding profiles. The banding patterns allow for quick discrimination between species to assess relatedness. Resulting banding patterns show a high degree of consistency within a species and differing banding patterns between species. Two *L. esculentum* samples produced virtually indistinguishable banding patterns demonstrating that profiles for a given species show a high degree of consistency. The profiles for *L. peruvianum* and *L. pennellii* samples show that individual species retain their own unique profiles. Having established a method of genotyping that employs no specific primers and uses small amounts of tissues, its applications as a quick and cost efficient genotyping method may be extended to other plant systems as well.

HOW WELL DO YOU KNOW YOUR PARTNER?: RISK PERCEPTION AND CONDOM USE. Peirson , S.

Presented at the Southern Sociological Society Meeting in New Orleans, 2003

Student: Sarah Pierson (2004)

Mentor: Douglas Eckberg, Ph.D.
Department of Sociology

This paper investigates factors that affect condom use. One factor that may contribute to this use is the dynamic of the relationship with the person with whom one engages in intercourse. Tied into this is the ability of each person in the relationship to measure the amount of risk that the partner poses in potentially carrying an STD. My hypothesis is that the more long-term the relationship and, therefore, the more knowledge of the partner and the ability to make a more accurate perception of risk, the less likely either person will use a condom. Conversely, the more casual the relationship, the more likely a condom will be used. This study utilizes General Social Survey data from the year 2000. Creating contingency tables led to results that support the hypothesis, but that also show a large proportion of respondents making high-risk sexual decisions.

VOTING, TV, & EFFICACY. Gentry, B.
Presented at the Annual Meeting of the South Carolina Political Science Association, Winthrop University, February 2003.

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

Well known is the fact that active participation in America has gone down. Voting, especially, has been affected. Literature and statistics on voting behavior have demonstrated these shocking results. But lack of voting is simply the beginning: several factors affect civic engagement and among those are the negative perceptions of politics received through televised media. This study found several factors of significance with respect to efficacy, amount of TV watching, politician trust, and differences in gender factors. Though Robert Putnam's suggestion of too much television does hold true, other factors can be predictors as well.

**HOW DOES CLOTHING "SPEAK"?
PROFESSIONAL APPEARANCE IN THE
WRITING CENTER.** Hassell, T.

Presented at the Southeastern Writing Center Association Conference, Charlotte, NC, February 12-13, 2003.

Student: Tonya Hassell (2003)
Faculty Mentor: Jane B. Smith, Ph.D.
Department of English

How does a tutor's way of dressing "speak" to different audiences--students, faculty, and administration? The *Winthrop Writing Center Operations Manual* states that tutors "are expected to dress professionally," but professionalism is more complex than our *Operations Manual* suggests. Writing Centers need to consider their guidelines for tutor appearance. When I began tutoring, my mentor complimented my skills and told the Writing Center director that my unique style of dress caused no distraction to the students I tutored. This comment made me wonder if the Writing Center had specific guidelines addressing the tutors' appearances. The rules concerning appearance were brief, simply saying that tutors were expected to dress and behave professionally while on duty. This straightforward statement hides a complex problem. Students want a tutor who "looks like they do"; however, they also want a tutor who looks knowledgeable. The tutors also represent the English Department and are seen

by faculty, as well as administrators. So, how does the tutor's way of dressing "speak" to these different audiences? How does the student's perception of the tutor affect the tutorial? Ultimately, what does the phrase "a professional appearance" mean? In order to discover the perceptions of these different groups of people, I have surveyed and interviewed students, tutors, and faculty, as well as other Writing Center directors about "appropriate" and "inappropriate" appearance. My paper presents these results.

**AMERICA IN THE FIFTIES: THE CATCHER
IN THE RYE AND THE MOVIEGOER.**

Presented at the Undergraduate Conference in the Humanities, Raleigh, NC, April 12, 2003.

Student: Tonya Hassell (2003)
Faculty Mentor: Max Childers, Ph.D.
Department of English

Stephen J. Whitfield in "Cherished and Cursed: Toward a Social History of *The Catcher in the Rye*" claims that *Catcher* "became 'a threshold text to the decade of the sixties,' ten years after it appeared at the start of the fifties, [when it was] a minority text stating a minor view" (583). And, interestingly, in another essay, "Towards the Postmodern Historical Imagination: Mass Culture in Walker Percy's *The Moviegoer* and Nicholson Baker's *The Mezzanine*," Phillip E. Simmons claims that *The Moviegoer* is comparable to works by Updike and Salinger and that the 1962 paperback edition of *The Moviegoer* classifies the novel as "a *Catcher in the Rye* for adults only" (par. 6). Even though these novels were published one decade apart, Salinger's presentation of American society in 1951 serves as a precursor to the same society Percy presents in 1961, which confirms Whitfield's assessment of *Catcher* as a "threshold text."

Both of these well-known novels have received much critical attention since publication; and generally critics characterize the main characters, Binx and Holden, the same way. For example, most critics argue that Holden and Binx are unreliable narrators; that both characters complain of a fixed-class society in which they have fixed positions; and that in order for progress to occur, both characters must adjust to conformity since they cannot flee society altogether. To some degree, both characters are also archetypal representations of the Seeker, a traditional figure in literature. These characterizations alone suggest that a critical examination of *The Catcher in the Rye* in conjunction with the *The Moviegoer* is plausible and,

moreover, that their characters reflect a particular identity existing in postwar America.

THE FENG SHUI TO WRITING: THE PRACTICAL EFFECT OF THE ENVIRONMENT.

Phillips, S.

Presented at the Southeastern Writing Center Association Conference, Charlotte, NC, February 12-13, 2003.

Student: Suzan Phillips (2003)

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

Department of English

You may have great tutors, a wall of resource books, a receptionist, helpful handouts, and maybe even a decent budget. What's missing in your writing center? What impression are you making on that Writing 101 student? Great tutors are a must, of course, but what about the periphery, the surroundings, the environment, and atmosphere of your center? What does it say, and what do you want it to say? This is a welcome, comfortable, open, friendly place to work on a paper? Or this is a sterile, cold, elitist, teacher-like place to work on a paper? To answer these questions, first we must define our purpose.

We can make our centers more student-friendly by exploring the effects of changing the environment, including noise (too much or not enough), color, plants, posters, and even furniture placement. We can make the students feel at ease and, therefore, more susceptible to advice and open to talking. We want them to feel as if they are with their peers. This idea goes well with the peer tutoring and relationships we wish to create.

Exploring the ancient Chinese philosophy of design and architecture, *Feng Shui*, can help us make a positive first impression and create a more comfortable, friendly, student-centered environment. We aren't talking about bonsai trees either. How people move around the center and where they sit, light, the placement of objects, all of these ambient factors lead to a warm, comfortable, affable atmosphere that will allow students to feel at ease. And won't these elements lend to the approachability of tutors and the center as a whole? Shouldn't we address the trends of the generation we are attempting to reach? We should, and can, by implementing a few strategies.

I DID MY PART BY SHOWING UP: THE RELUCTANT CLIENT. Beattie, J.

Presented at the Southeastern Writing Center Association Conference, Charlotte, NC, February 12-13, 2003.

Student: Jennifer Beattie (2002)

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

Department of English

The problem of engaging reluctant clients, particularly those who do not come to the Writing Center of their own accord, can prove both challenging and frustrating to tutors. Students required by their teachers to come to the Writing Center approach tutorials with certain attitudes, assumptions, and expectations, which can have a negative impact on the dynamic of the tutorial; as tutors, we must recognize and address these and tailor the tutorial to the student. We all know those students: the ones who just sit there, slumped back in their chairs, with blank looks on their faces, refusing to look at you or their papers. They answer all your supposedly effective tutoring questions with shoulder shrugs and "I dunno." They are the reluctant clients, and they may be reluctant for a variety of reasons. Surveying nine tutors at Winthrop University reveals that, of Dave Healy's twelve "varieties of apathetic experience," students who have been required by a teacher to visit the writing center (whom I will refer to as the "forced-to-come" students) are the most common reluctant clients. These surveys also reveal that such students can have a negative effect on the dynamic of tutorial sessions, which frustrates the tutors, who cannot figure out why this is happening or how to overcome it. Surveying a sample of forced-to-come students will explain the negativity they bring to the table by revealing that they approach tutorials with different attitudes, assumptions, and expectations than our other clients. I will argue that we, as tutors, must recognize these characteristics of forced-to-come students and approach their tutorials differently. In order to achieve our ever-present goal of improving student writing in the long-term with these particular students, we must tailor our tutorials to meet the specific needs of these students, to address their attitudes, overcome their assumptions, and meet (to the best of our ability) their expectations.

ADVERTISING THE CENTER EFFECTIVELY.

Alspach, A.

Presented at the Southeastern Writing Center Association Conference, Charlotte, NC, February 12-13, 2003.

Student: Ardyce Alspach (2003)

Faculty Mentors: Norma McDuffie, M.A., and Jane B. Smith, Ph.D.

Department of English

In order to attract students to the Winthrop Writing Center, the staff members use fliers, faculty recommendations, the Writing Center web page, posters in campus buildings, and regular emails to faculty and staff. Although the Center staff assumed our message reaches all students, a survey revealed that some of our advertising techniques were not effective. The most efficient form of reaching students presently, given our attempts to be cost effective, is faculty recommendation. Surveys indicate that most students (approximately 75%) delete the Winthrop informational emails, including Writing Center messages, without reading them. Based on student surveys; interviews with English Department administrators, Winthrop Writing Center staff members, and Student Life staff members; and research on writing centers, this paper suggests that including the Writing Center on the Freshman Orientation Tour, while being very cost effective, ensures that students have a more personal connection to the Center, which may encourage them to make use of our services.

THE FEW, THE PROUD, THE TUTORS: ADVERTISING AND RECRUITMENT IN THE WRITING CENTER.

Ferster, J.

Paper accepted for presentation at the Southeastern Writing Center Association Conference, Charlotte, NC, February 12-13, 2003.

Student: Jason Ferster (2002)

Faculty Members: Siobhan Brownson, Ph.D., and Jane B. Smith, Ph.D.

Department of English

Due to increased enrollment for the past few years at Winthrop University, the campus Writing Center has also experienced an increase in use. This increase has created a demand for more tutors. The average tutorial staff size for Winthrop's Writing Center during the past few years has been seven to ten tutors; several times throughout each week, there is only one tutor in the center for the span of one half to one hour. Concern about a sufficient number of

tutors each semester has grown, and there is a need for more students to take the required tutoring class in order to become tutors. Students at Winthrop University who responded to my surveys appear to be ignorant about tutoring opportunities and about how to obtain these positions in the Center. This ignorance apparently stems from recruitment measures that rely on faculty to recommend potential tutors. Therefore, I will present research concerning the effectiveness of implementing an advertising campaign to boost tutor recruitment. Research conducted at other universities in the southern region, along with information from databases and writing center publications, suggests that implementing a carefully designed campaign increases the numbers of students seeking tutorial positions.

WOMEN IN RUSSIA: FROM LENIN TO NOW.

Ellis, J.

Presented at the Annual Meeting of the South Carolina Political Science Association, Winthrop University, Rock Hill, SC, February 2003.

Student: Joseph Ellis (2003)

Faculty mentor: April Gordon, Ph.D.

Department of Political Science

Department of Sociology

Women in the former Soviet Union and Russia have played a vital role in the in the country. Although women in tsarist Russia were dominated by an entrenched patriarchic society, leaders like Catherine the Great established schools for women and sought reforms allowing them to work. However, the crown jewel of the women's movement was Lenin's 1917 Revolution. Lenin's Soviet Constitution was based on equality; women's social and political rights were important. Women in the USSR became doctors and engineers, were key political players, and women's rights — including abortion and divorce — were granted. Despite all these achievements, women still pulled "double-duty" at home and with their daily routine. For instance, a female doctor may work a full day, be responsible for shopping for groceries, making dinner, taking care of the kids, and cleaning the flat.

The "equality" in Communism was superficial, said some Russian feminists. Women were no better off in Communism than they were in tsarist Russia. This paper explores these notions and the extent to which Communism did bring about "equality" for women. On the other hand, the paper also details some of the

pitfalls of the regime. Lastly, the paper looks at the current condition of women in Russia. This may be some of the grimmest accounts of women's rights. The doctors of the USSR are now the street-peddlers of the Russian Federation. This research does not provide the solution for how to solve the women question in Russia. It does, however, present a political and historical framework from which to analyze their plight.

**SWIMMING AGAINST THE TIDE:
ELECTORAL STRUCTURES & EFFORTS TO
PROMOTE SCHOOL DESEGREGATION IN
ROCK HILL, SC.** Ellis, J., Kedrowski, K., and
Smith, S.

Presented at the Annual Meeting of the Southern Political Science Association, Savannah, GA, November 2002.

Student: Joseph Ellis (2003)
Faculty Mentors: Karen Kedrowski, Ph.D. and
Stephen Smith, Ph.D.
Department of Political Science

Despite national and regional increases in school resegregation, the school board in Rock Hill, SC has recently made several decisions that will increase desegregation, both socioeconomically and racially. Our paper demonstrates links between these decisions and the switch from an electoral system in which all board members were elected at large to one in which a majority are elected from districts. Having established these linkages, we compare the political conditions conducive to desegregation nowadays with those in the 1950s, '60s, and '70s. In those years, the federal judiciary generally provided a more favorable venue for desegregation proponents than did local political arenas, thus creating considerable tension between liberalism's pursuit of rights and democracy's concern with popular sovereignty. Nowadays, however, the conservative school desegregation jurisprudence of the past fifteen years may, we argue, have created a situation in which the workings of local politics may be more congenial than the federal courts to school desegregation. To the extent that argument has merit, the tension between liberalism and democracy in school desegregation issues is less now than it was a generation ago.

**AN HISTORICAL EXAMINATION OF THE
ROLE OF THE "BLACK BELTS" IN
SOUTHERN POLITICS.** Walker, A.B.

Presented at the Annual Meeting of the South Carolina Political Science Association, held at Winthrop University, February 2003.

Student: Amanda B. Walker (2003)
Faculty Mentor: Scott Huffmon, Ph.D.
Department of Political Science

The paper examines the role and influence of black belts in southern politics from the late-1800s through the mid-1900s. Black belts were areas in the Deep South with a 50 percent or more black population and a predominantly plantation or multi-unit agriculture economy. Large numbers of freed slaves and small numbers of wealthy whites populated these areas. As a result of the disproportionate racial balance in the black belts, white elites felt a threat to their power and influence. Driven by a pre-war mentality of black oppression and empowered by unwavering unity and commanding political ability, black-belt whites established a one-party system, disfranchised and excluded blacks from exerting political influence, and, through the one-party system, had a profound effect on presidential politics in the South. The black-belt whites' success stemmed from their ability to push the issue of white supremacy to gain the support of non-black-belt whites and to pressure those who opposed them to the point where opposition no longer attempted to enter the political realm. Black-belt whites, who were members of the Democratic Party, played upon whites' fears of black dominance and stressed the importance of protecting white womanhood and the "honor" of white men. They also used social pressures to siphon support away from other parties by accusing supporters of being traitors to their race by voting the Negro ticket. In addition to social pressures and powerful rhetoric, various methods of disfranchisement within the loopholes of the Fifteenth Amendment contributed to the political triumph of black-belt whites. Large numbers of blacks and a moderate number of whites were disfranchised by poll taxes, literacy tests, tests of understanding, secret ballots, and residency requirements. The whites-only primary, which banned blacks from voting in primary elections, was also a common and convenient method of disfranchisement. These methods of disfranchisement eliminated an estimated 95 percent of the black vote and 30 percent of the white vote. Black-belt whites' influence was also seen in presidential politics. In the Republican Party, the one-party system depressed southern influence in the

party and caused party leaders to give little consideration to the South in presidential elections. In the early 1900s, party leadership reduced the size of delegations of states where Republican candidates won few votes, further marginalizing southern delegates. It was only during the 1950s—when the party realized it needed southern states to win presidential elections—that changes in the treatment of southern delegates occurred. In the Democratic Party, the Solid South exerted considerable influence in vetoing presidential nominees through the 1930s. Black-belt whites blocked nominees at national conventions by joining with a small percentage of non-southern delegates to form the one-third voting bloc necessary to block a nominee. Southern delegates exerted influence in this manner until in 1936, when the two-thirds nominating rule was eliminated and replaced with a majority vote. This change eliminated one of the most powerful tools used by the South to increase its political influence and spelled the beginning of the end of the reign of the Solid South.

THE PUBLIC FACE OF CANCER: BREAST CANCER AND PROSTATE CANCER IN THE MEDIA AND THE PUBLIC PERCEPTION OF RISK. Kedrowski, K., Sarow, M., DeSantiago, G., Jebailey, P., and Barringer, C.

Presented at the Southern Political Science Association Meeting, Savannah, GA November 2002.

Presented at the Newspaper Division, Southeast Colloquium, AEJMC Conference, Little Rock, AR, March 2003.

Students: Gisela DeSantiago (2003), Patrick Jebailey (2004), and Carolyn Barringer (2003)

Faculty Mentors: Karen Kedrowski, Ph.D. and Marilyn Sarow, Ph.D.

Department of Political Science and Department of Mass Communication

In spite of significant scientific gains in the treatment of cancer over the past two decades, Americans continue to rank the fear of breast cancer and prostate cancer among their greatest health concerns. This paper examines the "public faces" of both breast cancer and prostate cancer through an examination of newspaper coverage of the diseases in five national or regional newspapers from 1980-1998. This paper examines the profiles of people with breast cancer and prostate cancer to determine whether the "public face" of people with cancer accurately matches the

typical victim with cancer and how this might impact the public's perception of their own risk of contracting either breast cancer or prostate cancer.

In addition, it attempts to examine the impact of public opinion upon the development of breast cancer and prostate cancer profiles using three separate public opinion surveys, all of which ask questions related to perceived risk. The results suggest that the "public face" of cancer is badly distorted, while the public face of prostate cancer is less distorted. The paper concludes that the public face of both diseases may be distorting the public's perception of risk and, thus, policymakers' perceptions of how public money should be spent.

A HISTORICAL ANALYSIS OF GENDER AND HOMICIDE. Hudak, B.

Presented at the Southern Sociological Society Meeting in New Orleans, 2002.

Presented at the South Carolina Social Science Symposium, 2003.

Student: Brian Hudak (2003)

Faculty Mentor: Douglas Eckberg, Ph.D.
Department of Sociology

There have been many studies that seek to compare homicide trends of males to females, but these studies have mainly dealt with present-day data and have not explored the change in homicide trends from the past. This study uses the Supplemental Homicide Reports to gather information on contemporary homicides while another small data set is used to examine homicide trends from the years 1877-1878.

Several sets of variables were examined by using chi square tests as the major statistical test. The historical data set is very small so many of the variables, such as weapon and relationship between victim and offender, had to be merged into more general categories. The variables examined in this study were: offender sex and victim race, offender sex and weapon used, and offender sex and relationship between victim and offender. Overall, the results show that women are more likely to kill in the present than they were in the past. Also, women are more likely to kill family members while males are more likely to kill acquaintances. Men in the past and present are more likely to kill with a firearm; in the past, women were more likely to kill by some unarmed method such as poison or strangulation, while in the present they are more likely to kill with a firearm. While the historical data set contained only

a small amount of data, it was enough to make a comparison between contemporary and historical homicide.

SELECTED ABSTRACTS FROM METHODS COURSES

BIOL 300: Scientific Process in Biology

STUDY OF THE HOUSE CRICKET, *Acheta domesticus* (Linnaeus): HOW POPULATION DENSITY AND FEMALE SCARCITY AFFECT THE FREQUENCY OF AGGRESSION AMONG MALE CRICKETS. Townsend, M.

Presented at the Biology Department Poster Session, Winthrop University, October 17, 2002.

Student: Mindy Townsend (2003)
Faculty Mentor: Paula Mitchell, Ph.D.
Department of Biology

Aggression in crickets has been studied many times, but the effects of population density and female scarcity have been largely overlooked. This study focuses on the effect a low-density (a four-cricket population) habitat and a high-density (a twelve-cricket population) habitat have on cricket aggression. It also examined how the presence of a female affected male aggression. To test this, I kept three populations of four crickets and three populations of twelve crickets [*Acheta domesticus* (Linnaeus)]. Each cricket was then tested against an unfamiliar cricket of the same population size, and the crickets' aggressive behavior and activities were recorded. The crickets were tested in two experiments. In the first experiment, only the two males were present in the arena. At the beginning of the second experiment, a female was placed in the arena along with the two males. My results revealed that male crickets in the high-density population fought longer, fought more often, and bit each other more often when there were no females present. Additionally, the four-cricket population (no females) displayed a significant increase in the frequency of challenges (i.e., threatening behavior) than the twelve-cricket population. From the data, I concluded that aggression in male crickets decreases in the presence of females within a high population of male crickets. The fact that the males tended not to display aggressive behavior around females suggests that they were distracted by the female and chose to spend their time observing and courting her rather than fighting with the other male. I also concluded that low populations of males rely more heavily on

body signals and size rather than aggressive fights to settle disputes.

THE PREFERENCE OF ANTS (Formicidae) FOR SUGAR VERSUS SUGAR/PROTEIN MIXTURE. Huiett, E.B.

Presented at the Biology Department Poster Session, Winthrop University, October 17, 2002.

Received First Prize.

Student: Ebony K. Huiett (2004)
Faculty Mentor: Paula Mitchell, Ph.D.
Department of Biology

There are over 9,500 different species of ants (Formicidae) presently on earth. Each colony of ants consists of a queen, males, and workers. The body of the ant is oriented into three segments: the body, trunk, and metasoma. Ants communicate by the use of their antennae and a chemical called pheromone. They feed on fats, carbohydrates, sugar, and protein. The objective of this experiment was to determine whether ants prefer sugar or a sugar/protein mixture, composed of sugar and a vanilla-flavored protein powdered drink mix. Before the actual testing could be done, the ants were baited using granulated sugar. The collected ants were taken to the Biology 300 laboratory for identification. The ant species were identified as *Leptothorax* sp., *Paratrechina* sp., and *Solenopsis invicta* Buren. After identification was complete, one teaspoon of sugar and one teaspoon of the sugar/protein mixture were placed on an index card and placed at five locations in South Carolina. The ants were allowed to forage for three hours. The number of ants on each pile was then recorded. The data were analyzed by a series of paired t-tests, several chi square tests of independence, and chi square tests for goodness of fit. The tests concluded that all of the ant species preferred sugar over the sugar/protein mixture. It was also proven that ants are attracted to vanilla, ruling out any chances for a confounding variable. The experiment could have been improved by obtaining a protein powder that was not flavored, so that both items introduced to the ants would have the same aroma. Also more testing sites could have increased the sample size. Finally, a warmer environment could have produced better foraging results.

FEMALE DOMINANCE IN RINGTAILED LEMURS. Hale, A.

Presented at the Biology Department Poster Session, Winthrop University, April 30, 2003.

Student: Angela Hale (2004)
Faculty Mentor: Janice Chism, Ph.D.
Department of Biology

The study of animal behavior is a subject that serves as a topic in many experiments. In this particular experiment, I observed three different types of behavior and related them to gender dominance among ring-tailed lemurs (*Lemur catta*). In order to carry out my study, I traveled to Riverbanks Zoo in Columbia, SC, to observe the lemur family they have there. In the family, there were three females and two males. I observed the lemurs for their grooming behavior, feeding behavior, and approach/avoid behavior. I predicted that the female lemurs would display more acts of approaching other lemurs, as well as approaching the food, and being groomed by other lemurs. I made this prediction because it has been proven that ring-tailed lemurs are one of the few female dominant species. I conducted this experiment by the method of focal sampling for each of the lemurs in this particular community. After conducting this experiment and performing the t test, my results showed there was only a significant difference in my data for the avoidance of another lemur. I was only able to accept my alternative hypothesis stating that female lemurs depict more dominant behavior for this one behavior type.

GENDER DIFFERENCES IN RECOMMENDED DIETARY INTAKE AMONG ATHLETES.

Hunter, T.
Presented at the Biology Department Poster Session, Winthrop University, April 30, 2003.

Student: Tiffany Hunter (2005)
Faculty Mentor: Janice Chism, Ph.D.
Department of Biology

In this experiment, I wanted to discover whether young male and female athletes follow the recommended dietary allowances and get the proper kilocalorie intake. Based on previous studies and research, I hypothesized that there is a difference in the dietary regime of male and female athletes. I hypothesized that men consume the proper amount of kilocalories and follow their recommended dietary allowances more closely than women because women are unaware of their energy requirements and underestimate their dietary needs. I surveyed five

men and six women of Winthrop University's men's and women's basketball teams in Rock Hill, SC. They filled out a survey requiring information regarding weight, height, age, gender, and levels of activities in hours. They were also asked to provide a menu of meals on a typical day. I took this information and entered it into the Nutritional Analysis Tool 2.0 on the Nutritional Analysis Website to report their dietary intake (Painter 1999). I also used the energy calculator on the Nutritional Analysis Website to determine his or her total daily calories (Painter 1996). I computed the differences between theoretical intake and the actual intake. I used a T-test to test the differences between the means of the two groups to determine whether they differed significantly. I found that male athletes consumed less than their recommended kilocalorie intake. A female athlete consumed more kilocalories and in some cases the approximate amount of their recommended kilocalorie intake. The T-test showed that there is no significant difference between the means of male and female athletes' kilocalorie intake.

STRENGTHS OF TROPHIC RESPONSES EXHIBITED BY TOMATO PLANTS (*Lycopersicon esculentum*): GRAVITISM VS. PHOTOTROPISM. Sprogis, B.

Presented at the Biology Department Poster Session, Winthrop University, April 30, 2003.

Student: Brandon Sprogis (2005)
Faculty Mentor: Janice Chism, Ph.D.
Department of Biology

I wanted to determine whether phototropism or gravitropism elicited a stronger response in plants. In order to determine which response is stronger, different growing positions must be created. Growing tomato plants (*Lycopersicon esculentum*) in controlled environments was how I obtained my data. I had hypothesized that because light is essential for plant growth, phototropism would show a stronger response. I had four samples; one was a control with a light source directly above tomato plants in a normal growing position. The second was with a light above the plants, which were placed horizontally to the ground. A third position was with the plants hanging off a shelf with their foliage above a light source. The fourth situation involved a light on the base of the box, with the tomato plants inverted over the light. The elongating growth of the plants was normal, but every plant elicited gravitropic responses and grew in a vertical fashion. Even the plants above the lights grew up and away

from the light sources. Thus, gravitropism is the stronger of the two trophic responses.

PLSC 350: Scope & Methods

THE EFFECTS OF RAP MUSIC ON CHILDREN

Student: Chisa Sheree Johnson (2003)
Faculty Mentor: Scott Huffmon, Ph.D.
Department of Political Science

Recently rap music has been the topic of many conversations. A device that was originally used to voice social and political opinions has turned into a double-edged sword. On the one hand, rap music is entertaining those who wish to be entertained; but on the other hand, it is offending those who do not wish to be engaged with its message. The idea of rap originated from rapping deejays who performed on Saturday nights at local clubs. They used their talent to combine “street wit,” the latest dance music, and “turntable” technology to put a crowd in a trance. Many individuals have the misconception that the art of rap was originated by the Sugar Hill Gang; but if one looks back at the records, they too had predecessors. In 1979 The Fatback Band’s “King Tim III (The Personality Jock)” album debuted as the first rap record (16). The group’s 1979 single “Kill Tim III” appeared on *Billboard*’s soul chart around the same time Sugar Hill Gang’s “Rapper’s Delight” debuted. It did not take long for the rap trend to catch on, and artists like Curtis Blow and Grand Master Flash soon followed. Rap artists used their skills to entertain one another. They usually rhymed about life, what was going on where they lived, or anything that they thought was interesting.

Rap’s latest style is the cause of the debates opposing the music and its accessibility to youth. Many people consider the “new” style of rap with all the violence and sex to be offensive, immoral, and harmful to children. They claim that the violence in the music is the reason why young people are committing so many violent acts.

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