

The Third Annual
Ranger Research Day

Northwestern Oklahoma State University
Alva, Oklahoma ~ April 3, 2009

Student Center Ballroom ~ Alva Campus

S C H E D U L E

8:00 a.m. ~ registration and set-up

9:00 a.m. ~ judging begins

10:30 a.m. ~ poster displays open to public

11:30 a.m. ~ presentation of awards

12:00 p.m. ~ conclusion of Ranger Research Day

ABSTRACTS

*An asterisk denotes a project authored by a NWOSU faculty member;
only student posters are eligible for competition and awards.

Education

3.06 Psychology

3.06.01, Tamara Carroll (Dr. Wayne McMillin, sponsor)

Male and Female Attitudes toward Division of Labor

The purpose of this study was to test between what men considered to be fair division of labor and women's opinion of what is fair and whether each believes in a traditional or nontraditional household. The results showed that single females had a more nontraditional view of household tasks and married males had a more traditional view based on their sex role attitude. The findings of the present study do support the hypothesis in that married and single people have different views of household task attitudes. But the data was too closely related to have any significance. The data showed that the findings all landed in the middle range of both scales which makes for skewed results. Future studies need to be conducted to come to a more significant conclusion.

3.06.02, Melissa McGinnis, (Dr. Wayne McMillin, sponsor)

Traditional Gender Roles and Religious Ideology

The purpose of this research study is to determine how traditional republicans are compared to democrats and how traditional conservative Protestants are compared to liberal Protestants. The instrument that was used to assess traditionalism came from the 1996 Religious Identity and Influence survey. The focus is on the husband as head of the household ideology and how much authority the husband maintains in the home. Data has been collected from students who attend a university as well as a two year college. The results showed that republicans are more traditional than democrats and although there is no significant difference between the two groups, the statistics suggest that republicans do tend to be more traditional in their beliefs.

3.06.03, Jyl Ratzlaff (Dr. Wayne McMillin, sponsor)

The Impact of Leisure Coping on College Students

In a study of 51 college students (age 20-64 years), the effectiveness of leisure coping and the relationships between leisure coping, stress vulnerability level, and psychological well-being were explored along with some demographic factors. The survey method was used to collect the data from the convenient sample. T-tests showed that the use of leisure coping had a significant impact on both stress levels and psychological well-being of the participants. Also, self-determination and empowerment from the use of leisure were significantly correlated to the level of stress and psychological well-being. The results show there are significant benefits from leisure as a stress coping technique. The individuals who used leisure for coping not only benefited by having lower levels of stress, healthier psychological well-beings, but also were more self-determined and empowered.

3.06.04, Dustin Swartwood (Dr. Wayne McMillin, sponsor)

The Role of Self-Esteem Upon Perceived Attraction

The effect of one's self-esteem on their likeability by others is examined in this paper. The question of "is a person with high self-esteem more likeable than a person with low self-esteem when it comes to forming romantic relationships" will be discussed and tested. It seems unlikely that a person with low self-esteem would ask a more confident person with average or high esteem out on a date, but would a person with average or high self-esteem consider dating a person with low self-esteem? It would also seem probable that people would be attracted to others with similar levels of self-esteem. These ideas will be reviewed and tested in order to come to a conclusion about the relationship between self-esteem and likeability.

3.06.05, Ron Shearon (Dr. Wayne McMillin, sponsor)

Voter Bias

In this survey of voter bias there was three candidates for a hypothetical presidential election. Each of the three candidates were from a particular area that would bring some bias for example; gender, age, and ethnicity. Of these categories each had three scenarios; in one scenario the candidate was pristine with no faults, the second scenario the candidate had an affair and in the last scenario the candidate had been caught in a lie. The survey was administered to college students and a local church group which indicated voter bias in the area of ethnicity.

***3.06.06, Virgie Blankenship, Ron Shearon, Chris Polzin, & Dr. Wayne McMillin (Dr. Wayne McMillin, sponsor)**

An Investigation of Social Networking: Perceptions and Deceptions in Users Profiles

With the emergence of the Internet and more recently social networking sites such as Myspace and Facebook meeting people has never been easier. These networks offer attractive, customizable, and easy access to a countless number of people from every walk of life in every area of the world. However, the ease in which a person can create an account and profile on these sites has raised some concerns about the validity of the information posted. In this study a number of collegiate students were surveyed about their usage of these types of sites and the motivational factors associated with social networking profiles. Additional analysis centered upon their perceptions of the accuracy of information posted on these sites. The results and implications of the study are discussed.

3.06.07, Amanda Moyer (Dr. Mark Davis, sponsor)

Establishing Personality Trends in Lupus Patients

Systemic Lupus Erythematosus (SLE) is an autoimmune disease that affects 1.5 million Americans (Chong, 2006). Lupus is notorious for being difficult to diagnose. Understanding people with a predisposition to lupus enables doctors to take preventive measures against the disease or more quickly diagnose it once the lupus becomes active. It has been observed that many lupus patients exhibit certain pre and post disease onset personality traits, although no conclusive results have been obtained. The purpose of this study is to establish personality trends in lupus patients by assessing current patient's procrastination, self-regulation, and general perceived self efficacy levels. Patients were asked to fill out surveys as if they were healthy and not affected by lupus. Results indicated that lupus patients show lower levels of

procrastination, higher levels of self regulation and significantly higher levels of self-efficacy.

3.06.08, Alicia Coffin (Dr. Nancy Knous, sponsor)

What are the Effects of Peer Pressure on Drinking in College Students?

Many college students are pressured by their peers as well as others to drink causing them to drink alcohol when they normally wouldn't. There have been a number of studies that state that peer pressure is affecting the way that students socialize. When a student feels pressured to drink and they just want to fit in, they are more than likely going to drink to be "cool." The purpose of this research is to determine the effects of peer pressure on drinking in college students. The students that were used for this experiment are currently undergraduate students. The following classifications were used: freshmen, sophomores, juniors, and seniors. They were asked to take an anonymous survey, in which the questions had been written to determine whether or not the student is affected by their peers in their drinking life. In doing this experiment, I hope to show my fellow students that drinking is not required and that they do succumb to peer pressure. In realizing that they are pressured, I hope to inspire them to change the way that they pressure themselves, others, and handle peer pressure.

3.06.09, Crystal Ridgway and Regina Hargrove (Dr. Nancy Knous, sponsor)

The Effects of Depression on GPA and Attendance Among College Students

The purpose of the research study is to investigate the effects of depression on class attendance. Using a self-designed survey, the researchers surveyed approximately 100 students on campus to determine if depression level or the presence of depression symptoms has an effect on class attendance.

3.06.10, Heather Linder (Dr. Wayne McMillin, sponsor)

Parental Perceptions of Video Game Violence

This research paper is about video games and the violence that is in them and how parents view it. A survey was handed out to two groups one that just received the survey and one that received the survey along with a video that had no sound. The lack of sound may have produced a confounding variable that cause the results to show no significant results. With further research and sound on the video the hypothesis should be found to be true that parents after viewing violence in video games will have less tolerance to the violence.

Liberal Arts

4.02 English

4.02.01, Vanna Fuqua (Kathy Earnest, sponsor)

Genre In Dust Bowl Literature

A popular topic for literature is the Dust Bowl. Information from that period of time has been used to write novels, poetry, short fiction, history books, scholarly articles, and collections of letters. Each genre takes a different approach to the Dust Bowl by focusing either on the historical aspect of this period in time or human experience. When combined, all of this literature conveys a complete picture of the Dust Bowl by giving facts and statistics, firsthand emotional accounts, and stories handed down from those who did not survive that time in history. Separately, which genre conveys information the best?

4.04 History

***4.04.01, Jana Brown (Dr. Roger Hardaway, sponsor)**

African American Cowboys

"African American Cowboys" is a poster created in conjunction with an event at the Sod House Museum in February 2009 where Dr. Roger Hardaway was the keynote speaker addressing the impact African Americans have had on the cowboy profession. Dr. Hardaway's presentation was followed by Jana Brown who shared her ongoing research of Jesse Howard, an African American resident of early day Cleo Springs, Oklahoma. Howard was the son of a former slave from Alabama who settled in the Cleo Springs area during the Cherokee Outlet Land Run along with several other African Americans who formed the Happy Valley Community. In 1921, Howard partnered with Hosea English of Aline creating a rodeo that lasted from 1921 to the 1940s. The English-Howard Rodeo of Cleo Springs hosted at least 10,000 patrons in the 1935 event with cowboys from several states participating. Howard was also a partner in other rodeos including one at Carmen, Oklahoma. Howard raised and supplied stock for these rodeos and competed in several of the events. Miss Brown's research sources include newspaper archives, oral histories, census records, and archived primary documents.

4.08 Political Science

4.08.01, Dr. Aaron L. Mason, Dr. Eric J. Schmaltz, Dr. Tony E. Wohlers *Lederhosen, Rodeos, and Laptops: Comparisons of Political Culture in Oklahoma and Bavaria in the Age of Globalization

The globalization issue today remains complicated, generating as many questions as it does answers. This transformative phenomenon, however, contains the powerful countervailing trends of socio-economic disintegration and integration, ethnic nationalism and globalization, cultural diversity and homogenization, and the particular and the universal. Such forces are often contradictory in nature, creating economic, political, and cultural convergence and pluralism at the same time. Based on both a broader perspective and a comparative approach, this study explores the distinctive sociopolitical and cultural features of the states of Oklahoma, United States, and Bavaria, Germany, in relation to the globalization phenomenon. In the context of their political ideology, constitutional setting, policies, customs, and religion, this paper examines how the conservative underpinnings of these sociopolitical features can be positioned in the debates on globalization trends and political culture. After introducing the general themes of globalization and political culture, this study describes the methodology and provides a brief background on the states of Oklahoma and Bavaria. The study concludes with an analysis and discussion of the findings. The authors' hypothesis holds that these two jurisdictions or states exhibit similar cultural, economic, political and social institutions and practices, which similarly respond to the forces of globalization. In addition, both states' identities appear to remain resilient even in the face of significant global transformations. Not least of all, the findings suggest that Oklahoma can perhaps draw valuable lessons from Bavaria's own unique blending of tradition and change and reconcile them in the form of "progressive conservatism."

4.09 Sociology & Substance Abuse Studies

4.09.01, Wendy Bell-Sample (Rae Wilson, sponsor)

National Guard Members' and Families' Availability to Resources During Deployment

This project attempts to identify the types of care needed for National Guard soldiers and their family members. After active duty, many Guardsmen encounter demobilization without having access to benefits and support due to the distance and availability of military installations for reserve component service members. Additionally, the families do not have the support benefits which regular Army families receive from the on-post community. Preliminary research, conducted among a sample of National Guard families, demonstrated a lack of awareness regarding the resources available to them. The National Guard soldiers and their families require these support systems to cope with stressors to maintain healthy relationships before, during, and in preparation for future deployments.

Math and Science

6.01 Biology

6.01.01, Johnathan Oswald (Dr. Aaron J. Place, sponsor)

An Electrophysiological Analysis of the Tail Shaker Complex in Western Diamondback Rattlesnakes with the Use of Electromyography (EMG)

The six muscles that make up the tail shaker complex are some of the most specialized of all vertebrates. These muscles are dedicated to performing rattling behavior and are armed with an array of metabolic and physiological mechanisms to sustain them. The tail shaker muscles can progress at speeds up to 95cycles/second with contractions occurring every 12msec. Despite early anecdotal evidence, there have been no systematic investigations of the maximal duration of rattling or the pattern of fatigue these specialized muscles may exhibit. Snakes were made to rattle for a continuous four hour period in an attempt to fatigue the tail muscles. Although the snakes showed no signs of fatigue at high frequencies for prolonged durations, the study was still successful in its attempts to observe and record data for a prolonged bout of rattling. Tail shaker muscle and human heart muscle share similar physiological and metabolic demands. Future investigations of these unique muscles may uncover new treatments for human heart disease.

****6.01.02, Dr. Aaron J. Place***

The evolution of diet in rattlesnakes

As a group, rattlesnakes consume a wide range of prey. Some rattlesnakes consume mostly birds and mammals, while others focus on invertebrates, amphibians, and reptiles. The evolution of diet can be constrained by phylogenetic history and a variety of adaptations. The current study analyzes the role of body size, head length, fang length, and venom composition on the evolution of diet in rattlesnakes. Adaptations which might be better suited to a diet of endotherms were predicted to include: larger body size, longer heads, longer fangs, and more potent venom. Analysis indicated that snakes with longer heads and longer fangs consumed a higher proportion of endotherms than rattlesnakes with shorter heads and fangs. Maximum body length and venom composition were not related to diet. Endotherms tend to be bulkier than ectotherms hence longer heads and fangs are better equipped to handle these types of food items. Endotherms also tend to contain more calories per unit mass than ectotherms, hence longer heads and fangs are feeding adaptations. Recent studies suggest venom does not increase digestive efficiency, while the present study likewise indicates venom does not facilitate the capture of larger prey. Future investigations need to consider alternative measures for venom toxicity and study diet evolution in the context of resource partitioning among rattlesnakes.

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