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Abstracts are listed in alphabetical order
by first authors’ last name
The Internet and Dating: Pros and Cons of Online Dating
Sarah Abass, Paul Moreno, Maria Scardetta, Jeff McDaniels, & Jay Martinez, Mass Communication, Texas State University

Problem or research question:
In recent years we have witnessed a substantial growth in online communication and have accepted it as a vital tool in daily social interactions. As communication methods expand, so do the methods in which individuals seek out potential partners. The social stigma associated with online dating has decreased in recent years making its use more popular than ever. Although these online dating websites are growing in popularity, they tend to be contaminated with deception. Without face-to-face interactions, individuals have the ability to manipulate themselves physically and mentally to match the perfect image their potential partner holds, commonly known as “catfishing” (Joost, "Catfish"). Once these interactions are moved from the cyber to the real world, the deceptions begin to be uncovered. Other risks reside in online dating such as the possibility of being scammed or harassed (Couch et al., 2012). The purpose of this study is to understand the pros and cons undergraduate students feel towards online dating and their willingness to pursue a relationship beyond online dating.

Methodology or approach:
We will conduct a focus group discussion with approximately 8-10 undergraduate male and female students at a large size university in the state of Texas. These students will be recruited through a convenience sampling method, as researchers will invite friends and acquaintances to participate. Participants will be asked a series of questions to understand their views on the online dating culture. They will be asked to share their thoughts of online dating and how likely they are to use this method to meet new people. Additionally, we will ask them what the potential risks and benefits that come with using online dating and determine what type of experiences our participants had. We will then see how these deceptions could affect further relationships and determine if the potential risks outweigh the potential benefits.

Results or preliminary results and their impact on the field:
This study brings forth the true nature of online dating and the risks and benefits that reside beneath it. The importance of this research in academic studies is evident as online dating companies are one of the few industries that experienced a growth during a period of worldwide recession. (Finkel et al., 2012). Our results provided a deeper understanding as it examines the potential pros and cons in online dating. Based on our findings, participants are aware of the risks of online dating; however, it does not outweigh the benefits as they continue to use it to meet new people. As for those online daters who have been dishonest, this study showed the implication deception will have on
individuals and on potentially furthering or ending a romantic relationship and thus it will urge those who deceive to put an end to any dishonest behavior.
Applications of Bayesian Network Models in Studying Acute Myeloid Leukemia (AML)
Rupesh Agrahari, Computer Science, Texas State University

This study is related to designing computational models to analyze data to improve treatment of cancer, specifically Acute Myeloid Leukemia (AML). I used Bayesian networks to model gene expression data. Bayesian Networks (BN) is a probabilistic graphical model that is represented by a set of random variables and their conditional dependencies via a directed acyclic graph (DAG). Here, I represented each gene by a node of BN, and edges represent the dependency among genes. My motivation for using BN is that it can model both gene expressions and their dependencies, and enables me to use probability theory to make scientific predictions.

AML is a cancer of the myeloid line of blood cells in which bone marrow makes abnormal white blood cells, red blood cells, or platelets. AML is the most common acute leukemia affecting adults, and its incidence increases with age. It is a rare cancer, accounting for about 1.2% of total cancer deaths in the USA but its incidence is expected to increase as the population ages. In contrast, The myelodysplastic syndromes (MDS) are the group of diseases that affect bone marrow and blood. MDS are relatively mild and easily managed but they can grow more severe over time and even turn into AML. Therefore, it is important to analyze and compare the two diseases and gain better biological insight.

There are subcategories of AML and MDS which need to be studied to analyze the relation between them. An important application of my analysis is to identify MDS patients who have a higher probability of developing AML.

I developed a computational framework based on Bayesian networks to model the relation between AML and MDS data using gene-gene interaction assessment. My model is useful in predicting disease type (AML or MDS) of unknown cancer samples and differentiating between AML and MDS. In future this model can be helpful to the experiments trying to find efficient treatment plan for the disease using computational model.
Is There An Empirical Link Between The Oppression Of Animals And The Oppression Of Women?
Ashley Allcorn, Philosophy and Applied Ethics, Texas State University

Problem and Research Question:

Within the field of philosophy and animal advocacy there has been much debate over what Jason Wyckoff has coined the “Linked Oppression Thesis” in his paper Linking Sexism and Speciesism. The “linked oppression thesis” claims that there is a connection between the oppression of women and the oppression of animals. It also claims that this connection is “linked causally, materially, normatively, and/or conceptually” (Wyckoff, 2014). This study will be among the first to attempt to empirically verify Wyckoff’s theory. This research project will be looking at two main questions:

A. Is there a link between negative attitudes towards animals, traditional gender roles, and ambivalent/hostile sexism?

B. If there is a link does the empirical data support or contradict the linked oppression thesis.

Methodology:

Undergraduate students enrolled in several philosophy and psychology courses at Texas State University will be given the opportunity to participate in this study by taking an anonymous survey on Qualtrics and receive extra credit due to their participation.

A 5-point Likert scale was used for all survey questions to determine how much the student agrees or disagrees with each statement presented. The students will be asked to first complete twenty questions from the Animal Attitudes Scale (Herzog, 1991, example item: “I do not think that there is anything wrong with using animals in medical
research”). Second, students will be asked twenty-seven questions about their reasoning to consume meat. The Meat-Eating Justification Scale (Rothgerber, 2013) will be used to evaluate the student’s reasoning (example item: “We need meat for a healthy diet”). Students will then be asked the thirteen questions pertaining to social roles. The Social Role Inventory (Baber & Tucker, 2006) will be used to examine gender transcendent and gender linked views (example item: “People can be both aggressive and nurturing regardless of sex”). Finally, students will be asked to complete the Ambivalent Sexism Inventory (Glick & Whitehead, 2010, example item: “Women, compared to men, tend to have a superior moral sensibility”) and the Ambivalence Towards Men Inventory (Glick & Whitehead, 2010, example item: “Men will always fight to have greater control in society than women”).

**Results or Preliminary Results:**

This survey was open until October 5th, 2015. As of September 25, 2015 there have been 290 responses. Data will be analyzed and the results will be included in a comprehensive paper on this study.

**Impact on the Field:**

This empirical data will offer substantial evidence to either support or refute the “linked oppression thesis”. If the data supports the thesis than further conversation around the liberation of animals in relation to the feminist movement can occur.
An Experimental Investigation of the Environmental and System Setting Factors Affecting the Photovoltaic Panel Energy Output Efficiency
Zaid Almusaied, Engineering Technology, Bahram Asiabanpour, & Semih Aslan, Ingram School of Engineering, Texas State University

The solar energy has a colossal potential to fulfill the more demanding needs of modern humanity to energy. There are many obstacles standing on the way of solar energy to reach its limits. The strong association and correlation of the photovoltaic panels’ energy output efficiency with respect to climate condition and solar panel position and condition factors have been reported by many researchers. This study investigates the correlation between a group of climate factors (such as irradiance, temperature, humidity, and wind speed) and solar panel factors (such as tilting angle, orientation angle, panel cleanness, and surface temperature) with respect to the output power efficiency. A web-based data acquisition system is designed, developed, used to collect and analyze the data from the photovoltaic panels. Design of the experimental method is used to define different levels of factors’ setting and data analysis.
Native advertisements have invaded their way into all forms of social media like Facebook, Twitter, YouTube and more. This new form of online advertisement has constructed a change within social media and online consumer buying behavior on the feed of accounts. (Manic, 2015, p. 53). So what prompts social media users to take action on native advertisements they are seeing online? The purpose of this research is to see a relationship between native advertisements on social media and the factors that influence them to make a positive buying decision. Such factors include the text, photograph, sales promotion, brand awareness and peer reviews. According to Zhang (2013), “A mix of positive and negative reviews provoke consumers’ information elaboration on the reviews and then strengthen the effect of emotional trust on the purchase intention” (p. 89). By conducting this research we will determine if inconsistent peer reviews on a native advertisements might intrigue consumers to purchase frequently online. In addition, this study ties our research into the importance of showing how trust has a significant impact on the intention to buy. The perceived usefulness of a site is also identified as a contributing factor (Hajli, 2013, p.387). This research will explore if users feel that native advertisements seen via social media are directed to a credible website, resulting in a positive purchase.

The theory we are utilizing for this research is the reasoned action theory. Reasoned action theory studies behavioral intention, predictions of behavior and suggests that people perceive benefits, risks and rewards before acting on a behavior. (Zhang, 2013, p. 95) Generally, reasoned action theory looks at the attitude a person has towards native advertisements, and if it affects their purchasing behavior. Reasoned action theory will allow us to conduct a focus group in order to obtain more information on the affects social media has on consumers.

On September 22, 2015, we performed a ten-person focus group at one of the larger universities in Texas. Student volunteers active on social media and purchased products online will discuss how online consumers are affected by native advertisements. Conducting this research will examine what motivates individuals to engage in native advertisements, how they are influenced to make a purchasing decision, as well as define other factors such as peer reviews.

We anticipate an increase in purchasing products or services if the product reviews are positive. Additionally, we will determine if the native advertisements are viewed or disregarded online. According to our focus group, 80 percent of the
participants said native advertisements were overwhelming and distracting to their online experience. As a result, a negative attitude was formed about native advertisements posted on social media and company platforms.

Reference:


Toward an Understanding of “Sphinx”: Assessing the Relationship between Jean Paul Richter’s writing and Robert Schumann’s *Carnaval*, Op.9
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We know from Robert Schumann’s letters and diaries that Jean Paul Richter (1763-1825) had a great impact on his life from the mid- to late 1820. Nevertheless, there has been little attention on the similarities of structure that arguably exist in both, Jean Paul’s writing and Schumann’s early piano cycle pieces. *Carnaval*, Op.9 is one of his piano cycle works composed of twenty-two movements. Its title suggests that all of the movements are related to the festival. Yet, if so, how can we explain No. 9 “Sphinx” in the middle of the piece? I am surveying the literature related to the mysterious movement “Sphinx” in Schumann’s *Carnaval*, Op.9 because I want to determine the extent to which the sources address Jean Paul’s influence on this work, why Schumann included “Sphinx” in the middle of the piece, and why it should be played, and not be omitted, in order to determine what has been written on this topic and what is in need of further study.
An Investigation on the Effects of the Metal Surface Coating Factors on the Mechanical Properties of the Parts Fabricated by the Fully Dense Freeform Fabrication Process
Bahram Asiabanpour, & Aron Zamora, Engineering, Abbas Fahami, & Maedeh Dabbaghianamiri, Material Science, Engineering, and Commercialization, Texas State University

Building highly dense metallic parts using Additive Manufacturing processes has always been of special interest to both researchers and industry. The Fully Dense Freeform Fabrication (FDFF) process uses an integrated layer aligning, compression, and heat based bonding method that can accurately align, position, and bond layers together, leading to fully dense metallic parts in a short time and cost effectively. This research investigates the effects of the metal surface coating factors in electroplating (such as cathode and anode materials, solution composition and amount, voltage, current, process time, and temperature) on the mechanical properties of the parts fabricated by the FDFF process. Mechanical tensile testing based on ASTM standard 2294-96 configuration was used to evaluate the changes on the mechanical properties of the fabricated part.
Diel and Lunar Influences on Hunting Behaviors of the Mountain Lion: America’s Most Widely Distributed Carnivore
Kendall J. AuBuchon, Floyd W. Weckerly, & T.R. Simpson, Biology, Texas State University; L.M. Elbroch, Wildlife, Fish, and Conservation Biology, University of California

PROBLEM OR RESEARCH QUESTION IN RELATION TO EXISTING RESEARCH:

The understanding of activity patterns and hunting behaviors can provide insight into life history and predator-prey dynamics. The mountain lion, *Puma concolor*, occupies the largest geographical range of any terrestrial mammal in the western hemisphere. Mountain lions live in a variety of habitats including mixed forests, high elevation plateaus, shrub communities, open steppe, valley bottoms with steep slopes, and riparian habitats. Their primary prey include mule deer and elk, but they also rely on smaller prey such as beaver and porcupine among others. Previous research has shown their activity patterns occur primarily during the nocturnal and crepuscular periods. Research on the relationship between activity patterns and mountain lion hunting behaviors is limited. The effects of illumination have not been examined until recently, with few studies considering the relationship between lunar phase and hunting behaviors, specifically in Mountain lions. My research examined mountain lion hunting behaviors by looking at kills made in response to diel cycle, season, and illumination.

METHODOLOGY OR APPROACH:

Two different study sites, Colorado and Wyoming, were included in this analysis. These sites represent a broad range of habitats occupied by mountain lions. Thus, examination of these sites allowed for a thorough investigation into predation events of Mountain lions. Data were collected from March 4, 2011 to March 31, 2015 on a total of (864) predation events from 23 different mountain lions fitted with Global Positioning System (GPS) collars. Potential clusters were defined as two or more locations which are ≤150 m apart within an eight hour time period. These locations were then followed by a thorough field investigation to confirm that a kill actually took place and data were recorded at the kill site. The response variable was the time of kill, which was taken as the first GPS time stamp transmitted within the cluster examined. I used a linear mixed-effects model to assess whether the data points collected have a specific pattern or were due to random chance.

RESULTS OR EXPECTED RESULTS AND THEIR IMPACT ON THE FIELD:

Diel cycle had significant effects on mountain lion kills as well as prey species. The greatest proportion of kills occurred during periods with greatest lunar illumination (>90 %), however lunar illumination did not have a significant effect on prey species.
Understanding the activity patterns and hunting behaviors will allow for better management of mountain lions as well as their prey populations. As habitat loss and fragmentation continues to occur due to an increasing human population, there are bound to be more human-mountain lion encounters. By investigating the factors which may affect hunting strategies, mountain lion behavioral studies may be used to help manage those issues and mitigate conflicts. These management practices will allow us the knowledge and tools, to successfully cohabitate with this iconic species.
On December 2, 1900, young reporter Susie Glaspell started covering the story of Margaret Hossack who was accused of murdering her husband John. Immediately after the trial, Susan Glaspell resigned. In 1916, Glaspell came back to the story of Margaret Hossack. It is clear that she considered Mrs. Hossack to be guilty with extenuating circumstances but that Hossack didn’t and couldn’t receive a fair trial with a jury of men. In Glaspell’s play *Trifles* (1916), Margaret Hossack is re-tried as Minnie Wright with an unnamed jury of her peers. In exploring the writings of Glaspell, important information is revealed about the power and authority of names within *Trifles*. Power and authority is given by not giving first names to the other women characters rather only their married names, by allowing the women rather than the men to “name” Minnie, and by giving all the men very specific first and last names. In 1916, when *Trifles* was written, women could not vote nor sit on a jury. Through an exploration of scholars in women’s issues, ancient naming practices, theatre, literature, and the text of the play, this paper will find that Glaspell’s *Trifles* uses the ideas of withholding names, hiding names, and giving names to literally bring into existence a new power that creates a subversive shift of control from the socially prominent, powerful, named men to the hidden world of the overlooked, undervalued, and unnamed women.
A Comparative Analysis of the Impacts of Premarital Abstinence Discourses on Young Christian’s Sex Lives
Katherine Barax & Ana Juarez, Anthropology, Texas State University

The purpose of this research was to answer the question of how influential premarital abstinence discourses are today for young Christians in 2015, and how the discourses have evolved over time. Data was collected via one-on-one interviews with study participants to achieve an emic perspective of Christian’s beliefs surrounding premarital abstinence. Furthermore, an anthropological approach centered on Michel Foucault’s power of discourse and Sherry Ortner’s practice theory was applied during data analysis. Preliminary results suggest that premarital abstinence discourses are still quite powerful and continue to affect Christian’s sexual practices and beliefs. In addition, these discourses have evolved from more negative discussions focused on sin, to more positive views of sex. The main goal for Christians in contemporary society is not virginity in itself, but to have healthy dating relationships and a healthy marriage by way of practicing abstinence. This finding contributes to a more thorough understanding of the types of sex education, which will be most effective for Christians.
An Ethnographic study of the Metropolitan Community Church in Austin, Texas
James R. Basler, Anthropology, Texas State University

Purpose -

The purpose of my research project is to understand how the congregation of the Metropolitan Community Church (MCC) has adapted to the rapid shift in societal attitudes towards the LGBT+ community. Further, the project has sought to better understand the views the membership and leadership of the church have on the church’s future. This paper will examine the results of nearly a year of ethnographic fieldwork at the MCC in Austin. Data was collected utilizing interviews, as well as direct and participant observations. The MCC is a progressive protestant leaning church that is almost exclusively LGBT. The MCC church in Austin was founded in 1976 with the intent of assisting the local LGBT population through an open atmosphere of acceptance to all who attend its services. The church provides services to LGBT Christians who otherwise feel abandoned or marginalized by the larger Christian community. MCC maintains and regularly participates in political action campaigns for LGBT civil rights throughout the city. Changes in social attitudes towards the LGBT community in the past fifteen years have made it more acceptable to be gay. Given the enormous political and social gains that the LGBT+ community has achieved, the direction of the church is in question.

Theoretical Perspective/Approach –

This project has adopted multiple theoretical backgrounds to better understand what has been observed at the church. The theories of Mary Douglas, Ervin Goffman, and Louis Althusser have been utilized to explain the changes that the church has been experiencing. Althusser’s work on ideology provides a base of understanding concerning how the LGBT community is understood and how that changes over time. The work of Ervin Goffman, specifically on stigma, is useful to place the LGBT community within the proper context of a stigmatized group within American society. Finally, the work of Mary Douglas on how groups understand what is pure and impure, help reveal why certain groups face stigmatization. Goffman’s understanding of stigma, when combined with Mary Douglas’ ideas concerning purity and pollution bring this community into focus. Often, in Douglas’s view, the structures of pure and polluting agents were symbolic of the functions and regions of the body. Individuals or groups who violated these structures were as Goffman points out, stigmatized, thus marginalizing the population and placing them on the boundaries of society. With these theoretical perspectives in mind, the project was conducted to determine how a marginalized group like the MCC, understands itself and its future as they achieve greater societal inclusion.
Characterization of Chromatin-remodeling Factors in Plant Immunity  
April Bonnard, Yogendra Bordiya, Ji Chul Nam, & Hong-Gu Kang, Biology, Texas State University

Problem or research question

Plants have evolved a complex immune system against various pathogens, part of which involves the function of resistance (R) proteins, which can detect the presence of secreted effector molecules from pathogens. These effectors are used to suppress the host immune system, thus enabling the pathogen to more effectively proliferate in the host tissue. Their detection however leads to an even more robust immune response by implementing large-scale modifications in chromatin accessibility, and thus gene accessibility. MORC1 is a protein that interacts with several of these R-proteins and is required to maintain optimum levels of immunity in Arabidopsis thaliana, the plant model organism. It is speculated that MORC1 is a putative chromatin-remodeling factor as it has been shown that its concentration in the nucleus increases upon pathogen infection. In this study, we aim to characterize the interaction of MORC1 with several other chromatin-remodeling factors, which are components of the SWR1-like complex in Arabidopsis. This complex has been shown replace a naturally occurring canonical histone dimer for a variant, the effects of which lead to upregulated transcription of the targeted gene. In studying these protein interactions and their effects on immunity, we can better understand how chromatin-remodeling relates to the plant immune response.

Methodology or approach

In this study, we use a yeast-two-hybrid (Y2H) system to detect direct protein-protein interactions in vivo, as well as co-immunoprecipitation (Co-IP) followed by western blotting to detect both direct and indirect protein-protein interactions in planta using Nicotiana benthamiana. Expression studies have been implemented by means of RNA extraction followed by semi-qRT PCR. Phenotypic analysis of the mutant plants have been analyzed by crossing single chromatin-remodeling factor mutant lines with the double knockout, morc1/morc2 line, and then analyzing the difference in phenotypes, suggestive of potential genetic interactions between the proteins. Resistance assays have been performed as well by infecting single and triple mutants with $10^5$ cfu/ml Pseudomonas syringae pv. tomato DC3000 (Pst) and detecting the bacterial luminescence quantitatively using a high quality imaging system.
Results or preliminary results and their impact on the field

Results of the Co-IP indicate that 8 of the 9 proteins tested interact with MORC1, and since these results were not reproduced in the Y2H, these interactions are most likely indirect. We have also shown that of the single and triple mutants tested in the resistance assay, SWC5 and SUF3 (ARP6) show significantly high levels of susceptibility, and the RVB1 knockout mutant is lethal, indicating that these proteins are required for optimum levels of plant immunity. These results indicate the importance of the SWR1-like complex in Arabidopsis as well as provide further evidence that MORC1 is a putative-chromatin remodeling factor and establishes sufficient reason to continue researching the relationship between these proteins to better understand the role of MORC1 as well as link chromatin-remodeling to plant immunity.
The Importance of Desensitization in Stuttering Therapy
Kate Browning, Jasmine Parham, Nicole Villarreal, & Farzan Irani, Communication Disorders, Texas State University

**Question:** Does the implementation of systematic desensitization activities during a 2-week intensive stuttering therapy program result in measurable changes in self-reported impact of stuttering on participants’ thoughts, feelings, and attitudes as measured by the Overall Assessment of the Speakers’ Experience of Stuttering (OASES; Yaruss & Quesal, 2008)?

**Methodology:** Five adults who stutter participated in the Comprehensive Stuttering Therapy Program (CSTP), consisting of sixty hours of direct therapy services over two-weeks. The participants were all young adults ranging in age from 18-22 years. Three participants were female and 2 were male.

**Dependent Variable:** The primary outcome measure for this study is a standardized self-report scale, the OASES. All participants were asked to complete the OASES prior to beginning the CSTP (pre-therapy data) and at the conclusion of the CSTP (post-therapy data). The OASES includes four sub-sections: General Information; Your Reactions to Stuttering; Communication in Daily Situations; and Quality of Life, which measure one’s self-reported thoughts, feelings, and attitudes in regards to their stuttering. Each subsection includes multiple 5-point likert scale questions that are scored to yield an impact score/rating for each individual subsection. All scores are compiled to yield an overall composite impact score/rating.

**Independent Variable:** The CSTP is designed to specifically address not only speech mechanics for people who stutter (i.e. teaching fluent speech techniques), but also empower the clients through education about stuttering, increasing awareness of their thoughts and feelings about being a person who stutters (PWS), and desensitization (i.e. systematic exposure to reduce fear) to the moment of stuttering and challenging speaking situations. The current study focuses on the effects of the educational and desensitization components of the CSTP. Desensitization activities were implemented to reduce negative feelings or anxiety associated with their stuttering. These included initiating conversations with strangers, making phone calls, voluntary stuttering, and conducting surveys about stuttering with strangers around campus. After each novel situation, the
participants completed a custom listener reaction survey, documentng how they felt about the interaction, as well as their observations of the listener’s reactions to their stuttering. To continue to aid in the desensitization process and empower the participants further, they prepared and presented a poster about different components of stuttering at the end of the first week. The CSTP culminated with the participants giving an oral presentation about their experiences during the program to a large audience.

**Results:** Participants’ scores for each individual subsection of the OASES were calculated pre-therapy and post-therapy. Individual scores and group trends will be reported to determine whether the 2-week program is correlated with changes in reported feelings on being identified as a person who stutters, acceptance of stuttering, knowledge of stuttering, ability to communicate in different social situations, and their overall quality of life. The group data will be further analyzed for treatment effect measured by Cohen’s $d$. 
Is an Increased BMI a Prevalent Symptom of Chronic Post-Concussion Syndrome?
Sean A. Buchner, Denise Gobert, Jace L. Kerby, Steven M. Nelson, & David L. Rouse,
Physical Therapy, Texas State University

Background: Chronic Post Concussion Syndrome is a persistence of symptoms of a mild traumatic brain injury (mTBI), associated with cognitive impairments, beyond the normative recovery length of 3 months. Recent studies have suggested concomitant symptoms associated with Chronic Post Concussion Syndrome, such as sleep deprivation, headaches, member fatigue, dizziness, insomnia, oculomotor impairments, memory difficulty and concentration difficulty. Research has shown an increase in BMI is associated with reduced performance cognitive performance and insomnia. Current head injury literature cites it as having significant correlation with mTBI in both the acute and sub acute phases, yet limited research describes its significant correlation with chronic post-concussion syndrome. The question remains is an increased BMI significantly related to individuals with chronic post concussive syndrome?

Purpose: The purpose of our study was to characterize the relationship between BMI and previously known symptomology of Post Concussive Syndrome.

Methods: Twelve participants (males: females = 10:2) from a university campus with a history of mild traumatic brain injury (mTBI) consented to participate. Average age=24.95 +/- 4.01 years, and a concussion history within the past 12 months (n=7) or longer (n = 3). Inclusion criteria was age over 18 years, status post head injury last 12 months, and binocular vision. Exclusion criteria included ocular pathology, visual acuity ≥ 20/200 or cervical spine pathology.

Participants completed a medical questionnaire detailing concussion history, current symptoms, sleep patterns and a simple medical screen including vital signs (BP, HR and O2 Stats), along with range of motion (ROM) for cervical, thoracic, lumbar spine and upper and lower extremities.

Data Analysis: Descriptive statistics were performed using IBM SPSS vs. 22.0 software. In addition, nonparametric statistics were used including the Spearman Rho Coefficient, the Kruskal Wallis ANOVA and a Linear Multiple Regression to describe
both bivariate and multivariate relationships and predictive associations. Alpha level was set at 0.05.

**Results:** Immediate Post Concussion and Cognitive Testing (ImPACT) computerized system characterized neurocognitive deficits in verbal memory (average 58.78 +/- 32.09%), visual memory (average 55.63 +/- 25.39%), visual motor processing speed (average 36.90 +/- 8.12ms), reaction time (average 0.432 +/- 0.276) ms. Participants demonstrated a higher BMI (average 26.18 +/- 4.24). There was a significant relationship to CON_Score (p=0.002), which, in turn, was significantly related to sleep (p=0.043).

**Conclusion:** Preliminary results indicate individuals with chronic post concussive syndrome have a higher than normal mean BMI, categorizing the average participant within the obese category defined by the World Health Organization.

**Clinical Relevance:** We were able to demonstrate the prevalence of increased BMI within the chronic post concussive population. This can impact both the short-term and long-term rehabilitation of patients, with an mTBI, due to the detrimental health impacts related to an increased BMI.
Molecular Genetic Response to Varied Wavelengths of Light in *Xiphophorus maculatus* Skin
Jordan Chang & Kaela Caballero, Chemistry & Biochemistry, Yuan Lu, William Boswell, & Mikki Boswell, Xiphophorus Genetic Stock Center, Texas State University

Abstract:

*Xiphophorus* fishes represent a model often utilized to study UVB induced tumorigenesis. Recently, varied genetic responses to UVB exposure has been documented in the skin of female and male *Xiphophorus*, as have differences in UVB response in the skin of different parental species and for interspecies hybrids produced from crossing them. Additionally, it has been shown that exposure to “cool white” fluorescent light induces a shift in the genetic profiles of *Xiphophorus* skin that is nearly as robust as the UVB response, but involves a fundamentally different set of genes. Given these results and the use of *Xiphophorus* interspecies hybrids as an experimental model for UVB inducible melanoma, it is of interest to characterize genes that may be transcriptionally modulated in a wavelength specific manner.

The global molecular genetic response of skin upon exposure of the intact animal to specific wavelengths of light has not been investigated. Herein, we report results of RNA-Seq experiments from the skin of male *Xiphophorus maculatus* Jp 163 B following exposure to varied 50 nm wavelengths of light ranging from 300-600 nm. We identify two specific wavelength regions, 350-400 nm (88 genes) and 500-550 nm (276 genes) that exhibit transcriptional modulation of a significantly greater number of transcripts than any of the other 50 nm regions in the 300-600 nm range. Observed functional sets of genes modulated within these two transcriptionally active light regions suggest different mechanisms of gene modulation.
Expressionistic playwrights sought to project their own subjective and eccentric view of the world. Frank Wedekind and George Kaiser both significantly contributed to the expressionist movement that became a dominant force in theatre during the end of the 19th century and carried over to the Second World War. This paper will focus on one specific work from each playwright: Wedekind’s *Spring’s Awakening* (1891) and Kaiser’s *From Morn to Midnight* (1917). Wedekind focuses on dark subject matter that is internally driven and presented in an episodic structure both of which were shaped by historical context. According to J. L. Styan, Wedekind’s theatricality included “ways to counteract realism, and consisted of ‘fragmented’ dialogue, forensic, episodic scenes, a distortion of natural phenomena… [and] the disarmingly modern technique of isolation” (17). Kaiser created a morality play in seven scenes that critiques German society and is filled with dark themes and poetic language. He was “possibly the most brilliant of the new German playwrights and the best representative of German expressionist, sustaining the passions of the movement” (Styan 47). Wedekind’s *Spring’s Awakening* and Kaiser’s *From Morn To Midnight* are prime examples of German expressionism and played vital roles in the movement via their showcase of language, morality, mysticism, and characterization.
Student Opinions of Xenotransplantation
Leah Colsch & Wayne Paris, Social Work, Abilene Christian University

Research Question: Recent studies report an ongoing shortage of donor organs. Approximately 50% of those needing a heart, lung, liver, or kidney will die while waiting for a transplant. One of the medical therapies being considered to alleviate the shortage of donor hearts is the experimental use of pig hearts with baboons. The current laboratory results are approaching sufficient success levels, and human clinical trials will begin in the near future. The purposes of the current work are to describe the initial pilot study results about the attitudes of university students from a faith based university in West Texas on cross species transplantation (i.e., Xenotransplantation). Later phases of the research will compare this sample of students with same measures from other universities, and transplant candidates and recipients. The information from this and the later phases will help in the development of psychosocial planning, assessment, and treatment for human clinical trials. Results will also be used for presentation and publication.

Methodology: The current study used an exploratory descriptive design. After university IRB approval, an email was forwarded to all juniors, seniors and graduate students informing them of the study. Those interested were directed via weblink to an informed consent document. Those who anonymously agreed to participate were then forwarded to the 35 item survey. All initial statistical analysis was done in collaboration with my program director and the head NIH researcher. The latest version of SPSS software was used for statistical analysis, and the procedures were appropriate for the parametric and non-parametric data.

Results and Implications: Of the 1,100 emails sent, 298 (27%) completed the informed consent; 289 of them agreed to participate. Respondents were primarily female (68%; 197/289), single – never married (78%; 225/289) and Caucasian (79%; 228/289). There was an almost equal distribution of juniors (35%; 102/289), seniors (32%; 92/289) and graduate students (32%; 92/289). Major areas of study were collapsed into 15 separate categories and ranged from business, arts, physical and biological sciences, to professional training programs. Two-thirds (66%; 190/289) were organ donors. Slightly more also discussed organ donation with family and/or friends (70%; 202/289). They identified their religious beliefs as primarily Christian (66%; 190/289), Protestant (19%; 54/289) or, Catholic (6%; 16/289). The vast majority were in favor of organ donation from a religious perspective (91%; 263/289). Ninety-six percent (277/289) would accept a pig heart if the expected results were the same as human organ donors. Only 18% (53/289) would consider it if the results were worse. Eight-percent (23/289) were aware pig donors must be genetically modified before they could be used for organ donation.
The numbers of who would then consider accepting a pig heart dramatically reduced, from previous reports, to 10% (29/289). A full analysis of their reasons for the change will be reported.

The findings suggest multiple psychosocial issues exist that must be better understood before Xenotransplantation will be widely accepted among college age students. The implications of the current findings and their influence on future research efforts will be discussed.
**Site Factors Influencing Tree Mortality During Drought in Texas**  
Sarah Crouchet, Susan Schwinning, Jennifer Jensen, & Ben Schwartz, Population and Conservation Biology, Texas State University

**Problem**

Climate models predict an increase in the frequency of severe weather events, including prolonged drought conditions. Texas experienced intense drought conditions in 2008 and again in 2011. The latter year is thought to have caused the death of 6% of all trees in Texas, though not all tree species and all locations were equally affected. The purpose of this research was to identify some of the local factors that modified rates of tree mortality at the plot scale.

**Methodology**

In 2014, I censused 62 plots across the state of Texas, mostly on the Edwards Plateau. In 30 m x 30 m plots, each tree above a minimal size threshold was identified to the species level, its basal circumference was measured and its health status recorded in 7 categories. The site factors associated with each plot were soil depth, soil composition, slope, aspect, elevation, and local climate data indicative of the local intensity of drought in 2008 and 2011, for example, cumulative precipitation, longest number of consecutive days without precipitation and/or with maximum temperatures above 35 °C. Here I present the results of a preliminary analysis focusing just on the effects of stand density on the mortality of individual species.
**Preliminary Results and Impact**

The species most often observed in plots were juniper (Juniperus ashei and J. virginiana), live oak (Quercus fusiformis and Q. virginiana), elm (Ulmus crassifolia and U. Americana), post oak (Q. stellata) and Texas persimmon (Diospyros texana). Among these species, the highest rates of mortality were observed in junipers, followed by live oak, post oak, persimmon, and then elm. Juniper mortality was highly significantly and positively affected by juniper stem density, but not by overall stem density in a plot, though juniper was the most abundant species. By contrast, live oak mortality was not dependent upon stem density either within or across species. Specifically, juniper density did not affect live oak mortality. Trees that died were on average smaller than trees that survived the drought years.

Our finding that juniper apparently suffered the most from drought mortality was surprising since juniper is well known to be an extremely drought-tolerant species. However, junipers are also comparatively shallow-rooted species that has been encroaching on the Edwards Plateau. The combination of these factors may have resulted in greater drought susceptibility in juniper populations compared to all other species. The results also suggest that the common perception of juniper encroachment threatening live oak populations was not supported. While the common practice of juniper removal may be of benefit to the maintenance habitat diversity, direct benefits to live oak populations may be quite limited.
Iron Doped NiO Based Resistive RAM Test Chip
Yubo Cui, MD Abdul Ahad Talukder, Greg McClendon, Xi Tang, & Wilhelmus J. Geerts, Physics, Texas State University

Problem:

Permalloy is a magnetic alloy of nickel and iron consisting of 80% nickel and 20% iron. It has a high magnetic permeability in weak magnetic field, a low coercivity, near zero magnetostriction, and a low magnetic anisotropy. Its magnetic properties do not depend on stress, which makes it very suitable to be used in magnetic sensors and actuators. Oxidized Permalloy (PyO) will not have those attractive magnetic properties so it was thought of as a kind of defect and avoided in the industry production. Therefore not a lot is known on PyO although recently it was shown to increase the performance of spin valve hard disc reading heads [1]. Another possible application of PyO is the resistive random access memory (ReRAM), which is a replacement of flash memory that is using today in cell phones and mobile devices. The principle of ReRAM is based on the soft breakdown of a transition metal oxide sandwiched between two electrodes. With two very different resistance states the memory can store the data and retain the information without battery power. Comparing to flash memory ReRAM devices are simpler allowing for higher information densities. In addition they also use less energy, have a higher switching speed, are radiation hard, and allow for more write-erase cycles. Today, NiO is a common used switching material in the industry. We investigated the effect of iron on the electric switching properties of NiO based ReRAM devices.

Methodology:

ReRAM test chips were made for three different iron concentrations, i.e. 0%, 10% and 20% in TxState’s cleanroom facility. Silicon wafers covered with a layer of 1000 nm SiO2 were used as substrate. The bottom electrode consisted of a bilayer of 150 nm Co on top of 20 nm of Ti. A 50-87 nm thick transition metal oxide was deposited by rf-sputtering using a sputter gas containing 20% oxygen and 80% argon. A bilayer of 78 nm of cobalt on top of 20 nm of TiN served as a top electrode. All films were deposited at room temperature by RF sputtering using an AJA system. Microstructuring of the various layers was done by using a standard lift off process.

The electrical properties of the wafers were characterized using an HP4145A semiconductor parameter analyzer.
Results and Conclusions:

The average sheet resistance of the top (bottom) electrode measured by 2pp from the devices was approximately 20-60 (4-6) Ohm/square. The sheet resistance of the 10%-Fe doped NiO film measured by 4pp was approximately $1.5 \times 10^9$ Ohm/square close to the values of a continuous film. The IV-curve of the ReRAM devices was non-ohmic and showed hysteresis, suggesting that our devices can be used to store information.

Ecotype Assessment for Guiding Arid Land Restoration Efforts in the Mojave Desert
Nathan Custer & Susan Schwinning, Biology, Texas State University; Lesley DeFalco, & Todd Esque, U.S. Geological Survey

Problem or Research Question:
The increasing occurrence, intensity and spatial extent of wildfires are changing Western landscapes. Water-limited ecosystems, such as the Mojave Desert, are slow to recover due to low primary productivity and limited establishment opportunities, especially for herbaceous perennials and woody plants. In times of drought when much of the perennial shrub vegetation is already dry, a fire can quickly destroy a community that has persisted for hundreds to thousands of years. Repeated burning makes it near impossible for shrub communities to naturally reestablish in these disturbed areas. The slow natural recover rate of arid ecosystems has made the development and improvement of active restoration practices a research priority.

Agencies, such as the Bureau of Land Management, are developing protocols for landscape scale restoration practices that use seed and plant materials from the Mojave Desert ecoregion, but because of the general scarcity of local seed sources, these materials may be from geographically and environmentally distant populations. This could be a problem, because of the substantial climatic gradients that exist across the Mojave Desert. In many cases, it is unknown whether non-local seeds and cuttings are sufficiently well adapted to environmental conditions outside their zone of origin. This may increase the chances of introducing individuals that are mal-adapted to their environment and potentially result in spending large sums of money on unsuccessful restoration projects.

Methodology:
To assess the viability of non-local seed sources, we installed three common gardens within the Mojave Desert that differ in edaphic characteristics and represent average climates ranging from cooler and wetter to hotter and drier. The gardens contain three native species to the Mojave Desert that are commonly used in restoration projects including long-lived perennial *Larrea tridentata* (creosote bush), the short-lived perennial *Ambrosia dumosa* (burro-weed), and the subshrub *Sphaeralcea ambigua* (globemallow) that were grown from seed in a greenhouse and transplanted to the gardens at one year of age. For every species, I raised plants from between 12 and 19 different source populations spanning six recognized climate zones of the Mojave Desert. I will present data of a survivorship analysis two years post-transplanting.
Preliminary Results:

In general, we found that ecotypes of almost all species from a climate zone similar to that of the common garden had significantly greater survivorship, even if source populations were from geographically far locations. However, the response was not highly specific, so that populations coming from similar climate zones had about the same survivorship as populations from the same climate zone. These findings allow us to delineate seed transfer zones based on ecotypes with highest survival rates that will guide the collection of plant materials for restoration projects in specific climate zones.
Spain's Political Transition Through the Novel *The Mystery of the Enchanted Crypt*
Alyssa Dalley, Modern Languages, Texas State University

The novel, *The Mystery of the Enchanted Crypt* published in 1979 by Eduardo Mendoza, is about a man, with a name that remains a mystery, who is temporarily liberated from a psychiatric hospital in order to help the police solve a case dealing with the disappearance of two teenage girls from a boarding school. Throughout the story this nameless man, or in other words the narrator, brings his readers on a trip to different places throughout Barcelona as he tries to solve the case with the little information that was given to him by the police. During his investigation, the protagonist takes on multiple identities for each new person that he meets in order to obtain more information while encountering a few problems along the way. The novel occurs during the time when Spain was experiencing a political transition from a dictatorship to a democracy. The four points in the novel that will be highlighted are the narrator’s liberation from the psychiatric hospital, the advantages and his way of thinking while solving the case, Mercede’s freedom from being convicted for a crime, and the case that was solved by the narrator and his sister instead of the police. The purpose of my research is to explain how these four events and characters in the book represent the different phases of the political transition that occurred in Spain.
Spontaneous Stripe Pattern Formation of NanoParticles During Self Assembly
Sayantan Das, Gary Beall, & El-Shazly M. Duraia, Material Science Engineering & Commercialization, Texas State University

Colloids and emulsions have a very wide range of electrical, mechanical and optical properties owing to its composition and organization of macromolecular building blocks. Colloidal self-assembly is one of the most promising and practical way of producing structures for novel qualitative applications for photonics, lithography biochemical sensors and ceramics. These colloidal structures obtained by self-assembly are dependent on the interactions between the particles, which can also be manipulated using external fields. In contrast to other methodologies to produce nanostructure over a large area, self-assembly approach is low cost, which attracts a lot of attention and demand for providing novel structures for various applications.

Previously, most amount of research attention was on fabricating mono-sized colloidal crystals using many different techniques. These mono-disperse system encounters inherent problems of structural controllability which inhibits the performance. Recent studies indicate that binary colloidal crystals exhibits more control and tunability of performance over mono-sized crystal, which is highly advantageous for certain applications. For example, using binary colloidal crystals high degree of band gap tunability was realized. The study on binary crystals were focused on forming different 2D and 3D, $L_SN$ structures using several different techniques for specific applications. Here, $L_SN$ characterizes the pattern of the binary colloidal crystal and $N$ is the number ratio of the small to large spheres. Although, interestingly very few work has been done on the spontaneous phase segregation of binary colloids during self-assembly for industrial applications.

Some of the notable experimental work used 1000nm & 600 nm polystyrene particles in a suspension and let it dry for a period of 50h, and reported phase segregation of particles without any further clarification. Yamaki et al. reported a size dependent separation of colloidal particles during 2D convective self-assembly of a liquid film on a mercury surface. The larger particles were gathered in the center and smaller particles surrounded them. The degree of separation between the particles is found to be more distinct for the radii ratio ($S/L$) close to 0.5.

Generally this work had been done to study colloidal systems under different conditions to understand the primary force of phase segregation, although no clear understanding is yet available and also none of the methods used is feasible for industrial applications. Using a low cost method to fabricate periodic segregation of particles over a large area for industrial applications is still expected for future application, for example color filters for LCD.

In this paper we will be the first to use industrially scalable process of directed self-assembly to aid spontaneous segregation of binary colloids forming vivid and periodic stripe patterns over large area. We investigate different parameters to control the length of the stripe patterns with possible explanation of the phenomenon with supplemental video and mathematical modelling. This novel work will be the first step towards providing a cost effective replacement of highly expensive manufacturing process of color filter used in LCD.
Bildungsroman's Features and The Social Image as a Destroyer of the Family Institution and as a Reformer of the Identity in "Todos Mienten" by Soledad Puértolas
Estefania David, Modern Languages, Texas State University

The purpose of this research is to uncover the characteristics of the Bildungsroman in Todos mienten and to show that the influence of this German Term can be found on a Modern Spanish Literature. Also this research focuses on how the growing process of a kid named Javier Arroyo can be affected by the social image and how it can destroy the family institution and reform his identity which will affect his perception about life when he is an adult.
Emerging Adult Perspectives on Pornography
Rebecca Densley, Media and Communication, Texas Tech University

Problem

Internet pornography use is common to the digital era. In fact, it is estimated that about half of all Internet users view pornography (Ropelato, 2006) with the young adult population being the most avid consumers (Carroll et al., 2008). The proliferation of Internet pornography has led to a natural academic interest in pornography effects, especially among adolescents and young adults. However, a common critique for the study of pornography is inconsistency in operationalization of terms (Ciclitira, 2002). Scholars define pornography in a variety of ways and research an assortment of pornography types, making it difficult to compare findings across studies. Additionally, many scholars fail to provide participants with a definition of pornography at all (Short et al., 2012). These issues are methodologically problematic because what one participant considers pornography may not be consistent for the entire sample.

Because the majority of pornography research examines the pornography use of young adults and uses questionnaires rather than experiments (Short et al., 2012), it is important to know what young adults think pornography is. To date, however, no research has been conducted with the intent to understand young adult opinions regarding pornography and discover which existing scholarly definitions of pornography align with young adult perspectives. The present study seeks to obtain young adult feedback regarding sexually explicit media content and existing definitions of pornography as well as explore predictors of differences in pornography opinions and attitudes. This study advances knowledge in the field of pornography research by clarifying existing
terminology and examining why young adult opinions of pornographic content may differ.

**Methodology**

The current study will consist of an online survey. Three hundred emerging adults (ages 18-26), both male and female, will be recruited through Qualtrics (a survey research company). Participants will respond to survey items measuring demographics, religiosity, pornography use, attitudes toward pornography, and perceptions of popular sexual media content. Participants will be provided with thirteen different textual descriptions of sexual media and asked to rate each example from 0 to 10, with 0 being not pornographic and 10 being very pornographic. Each description will be representative of content considered pornographic for at least one specific scholarly definition of pornography used in academic research. Participants will also be given several existing scholarly definitions of pornography and asked to select which content (from the list of textual descriptions mentioned previously) fall under the definition provided.

**Preliminary Results**

Preliminary results (expected early-October) will include which sexual media examples young adults consider most/least pornographic, which existing scholarly definitions of pornography best describe young adult perceptions of pornography, and hypothesis test results of possible gender and religiosity differences in perceptions of pornography.
References


Coleridge and the Hypnagogic State: Blending Folklore and Fairy Tale to Create the Unconscious in “Christabel”
Tyler Dukes, English, Texas State University

For years, scholars of S.T. Coleridge have tried to assign specific folkloric and fairy tale tropes to the characters and situations featured in his poem “Christabel.” However, in this research paper I argue that this categorical assignment cannot be done. Not only because Coleridge blurs the lines between literary genres, but because he intentionally writes the characters in “Christabel” within a liminal space, and therefore outside of genre. In this midway, “Christabel” exists between dreams and reality, suspended in a hypnagogic state. To begin, I examine the scholarly methodology that is often applied to “Christabel”: assigning one fairy tale or one folkloric predecessor to each element in the narrative. I then address the problems that arise from this one-track approach, and how it specifically blinds the scholar from seeing the complexities of a state between dream and waking. Biography, folklore, and psychology are the bases for my examination. I also briefly apply Carl Jung’s theory of the Shadow as a rhetorical backbone to my argument (specifically concerning the unconscious). This research aims to reevaluate the current academic discourse surrounding “Christabel” and offers an extended insight into the sleep-state of the poem.
A Method for Assessing Debris Flow Risk: An Application in Glacier National Park, Montana
Laura Engells & David R. Butler, Geography, Texas State University

Over the past twenty years, a series of debris flow events have impacted Glacier National Park in northwest Montana. In spite of this history of recent debris flow events, a dearth of research has left park managers with little data to determine the risk of debris flow occurrences in the park, particularly in the heavily trafficked recreational areas. With aerial photography and landscape analysis, research will be able to answer the following questions: 1) What areas are prone to debris flows in a study area within Glacier National Park? 2) Are these debris flows randomly or regularly occurring events? and 3) How do these events impact the environment of the park, in particular, how susceptible are hiking trails to debris flow run out? Utilizing aerial photography from Google Earth, hiking trails within the Ptarmigan Lake and Iceberg Lake drainage basins were identified as being highly vulnerable to debris flow events. When analyzing measures of frequency, intensity, and environmental impact of the debris flow events, three time periods were chosen from available aerial photos to provide bracketing dates for debris flow events: 1991, 2005, and 2014. Research indicates debris flows are regularly occurring events, prompting a need for a change in the emergency management techniques for the park, its patrons, and the surrounding areas.

Key words: debris flow, debris flow run out, aerial photography, Google Earth, Glacier National Park, hiking trails
Media Portrayals of African American Women in Rap Music Videos: The 
International Impact 
Jessica Foumena, Media and Communication, Texas Tech University 

Problem

The American entertainment industry is a multibillion business that extends its popularity beyond the U.S. borders. This study intends to examine the international impact of the media portrayals of African American in rap music videos. In fact, rap music and the hip-hop culture are heavily consumed by teenagers and young adults (Railton & Watson, 2005; Stokes, 2007).

Avid media consumers, members of the millennium generation around the world mold their identities around the images and symbols crafted by their favorite artists (Hazell and Clarke, 2007). According to bell hooks, popular music is one of the primary cultural platforms to represent black female sexuality (Railton and Watson, 2005). In rap music, the dominant stereotypes about Black women include the oversexed Jezebel, the overprotective Momma and the needy Welfare queen (Tyree 2009).

Unfortunately, the hypersexual and misogynistic music videos constitute the primary source of information about black women in the mainstream American culture (Reid-Brinkley, 2008). This is also the type of information easily accessible to most youth people, who have an interest for the American culture, but live in other countries.

Methodology

For this study, the researcher will analyze students’ interpretations of song lyrics and music videos and determine how their interpretations apply to their
perceptions of American women, precisely African American women. The researcher will arrange semi-structured interviews around rap music videos produced by a selected group of female rappers. Participants will be undergraduate international students aged 17 and 25 years old who have resided in the U.S. for a period between 3 to 12 months. They must have spent their formative years in a country other than the United States.

Participants will listen to and watch selected music videos in small groups and share their viewpoints with each other. The researcher will monitor of discussions and ask open-ended questions to students after showing them rap music videos, giving them an opportunity to have meaningful conversations. The researcher will transcribe selected passages of the conversations; the research will analyze students’ interpretations of song lyrics and music videos and determine how their interpretations apply to their perceptions American women, precisely African American women.

Expected Results

Many studies focus on the portrayal of black women in rap videos and the hip hop culture, and they generally blame black male rappers for selling their records at the expense of black women as Black women are often portrayed as sexual objects. This study seeks to answer the following research question (RQ) and examine the hypothesis:

RQ: Are the misogynistic language and negative stereotypical representations of African women present in songs by black female rappers influence the views people have of them around the world?
Hypothesis: Rap music videos and lyrics produced by female African American rappers reinforce negative stereotypes about African American women among participants.

References


Soft Templating of Conductive Polymers for Enhanced Electronic Properties
Jacob Frazer, Zachary Iszard, Joe Garcia, & Jennifer Irvin, Chemistry and Biochemistry, Texas State University

Research Question:

Electroactive polymers have the ability to switch reversibly between insulating and conductive states. These electrically conducting states are stabilized structurally through a conjugated bond network across the backbone of the polymer. The conducting polymeric systems in question can be solvated by choice organic solvents into homogenous solutions. Consequently, these solutions can be deposited in the form of films (templating). Resonating charges produced during electrochemical analysis of the polymer films are balanced in solution with the appropriate counterions depending upon the redox mechanism. Cycling the system voltage makes it possible to track current response of the polymer film as a function of solution electrochemical potential. The measure of current produced from the system is a component of polymer film electronic properties referred to as “electroactivity”. These facts give rise to an interesting question: does film morphology have an effect on conductive polymer electroactivity? Stated more precisely, can a film with increased surface area produce a greater current response?

Approach:

In order to evaluate the effect of film morphology on electroactivity, morphology will be controlled with a solvent/template system. Such systems are identified on the basis of solvent/non-solvent combinations with specified parameters (solubility/miscibility, density, boiling point, etc.) The solvent must dissolve the polymer, but the non-solvent cannot. The non-solvent is referred to as the template or “porogen” (creator of pores in the film). The porogen must be miscible with the solvent.

The films are then templated onto a conductive substrate once a viable solvent system is isolated. The concentration of porogen in the system will be varied in order to find the optimal window of pore formation. Co-continuous networks of pores are desired (greater surface area). The solvent and porogen are removed sequentially through evaporative annealing and vacuum oven heating theoretically leaving the desired porous film.

The extent of film enhancement is evaluated through electrochemical analysis (cyclic voltammetry). Results from this analysis are then correlated to film morphology studies gathered from scanning electron microscopy (SEM). The experimental control is a film with no porogen present during the templating process.
Results/Impact:

Presently, the solvent systems being studied are chloroform based. Three different templating porogens are investigated. These solvents include 1,4-dioxane, dimethyl sulfoxide (DMSO), and ethanolamine. As stated previously, the experimental control is a film that was not deposited with a template. The control is non-porous. We have established that current response does in fact increase with an increase in pore formation. SEM analysis confirms that with no template, pore formation does not occur. We have tested 1,4-dioxane and DMSO as templates and investigated changes in morphology and electroactivity. DMSO to date produces the most co-continuous pore networks. The DMSO system produces a current response (normalized current/mass) magnitudes greater than the control. Peak current for certain DMSO films are in the range of 300 mA/g, while the control (non-porous) only produces a peak current response close to 10 mA/g.

These high surface area electroactive polymeric systems have the ability to dramatically improve existing technologies such as biochemical sensors, corrosion inhibition in coatings, and electrochromic devices. Much of the excitement surrounding this research is the material’s ability to store electrical energy (environmentally friendly capacitors and batteries).
Music Video Portrayals: A Content Analysis of Latina Portrayals in Music Videos
Issa Galvan, Mass Communication, Texas State University

Problem or research question:
An increase in the Latino population in the United States has media playing a crucial role in the construction of identity and perpetuation of stereotypes of this minority group. The influence of media in both non-Latino perceptions and Latinos’ self-perceptions are due to how audiences learn about those inside and outside of their group through media. Latina characters are portrayed with curvaceous bodies, exotic looks, tight clothes and objectified bodies leading to the hypersexualization of the Latina identity and creating questions of ethnic authenticity in American media. The message is, Latinas are expected to act and look a certain way in order to be accepted in society, which may effect self-perceptions due to these hypersexualized media portrayals. This research attempts to answer the following questions: Do popular culture’s top Latina music videos perpetuate common stereotypes of Latinas? Are Latina portrayals hypersexualized in these music videos?

Methodology or approach:
This study will conduct a content analysis of English-language music videos of Latina artists in popular culture released within the last year in order to investigate portrayals and identify common Latina stereotypes.

Results or preliminary results and their impact on the field:
I expect to obtain results that find these music videos reinforce common stereotypes and hypersexualize the Latina identity. These findings may serve as the foundation for future studies investigating how these portrayals may be detrimental to Latinas’ self-perceptions based on exposure to these videos.
Renovating the House on Mango Street: Expanding Latinx Literature in First-Year Composition Classes
Edward S. Garza, English, Texas State University

Problem or Research Question: How can composition instructors rethink and expand the Latinx literature they teach, more fully reflecting the current realities of Latinx students?

Methodology or Approach: Several first-year composition anthologies were surveyed to identify which Latinx texts/authors pervade them. More contemporary works by Latinxs whose themes focus more on adjusting to college life, negotiating one’s hybrid identity, and other challenges faced by second- and third-generation Americans were also examined.

Results or Preliminary Results and Their Impact on the Field: It was found that the Latinx literature centering on the above experiences is more than ample enough to serve composition instructors and their students. This finding impacts the field by arguing, as writing scholars such as Gerald Graff and Christine Farris have done, that literature still has a place in composition classes, especially if it promotes students’ social awareness and cross-cultural empathy, as Latinx literature can do.
Variation in the Trabecular Structure of the Proximal Tibia between Obese and Non-obese Females
Devora Gleiber, Cassie Skipper, Deborah Cunningham, & Daniel Wescott, Anthropology, Texas State University

Obesity can add a biomechanical burden to the human knee joint. Since mechanical usage influences trabecular architecture, differences between obese and normal weight individuals should be reflected in the trabecular structure of the knee joint. In this study, we conduct a preliminary assessment of the differences in trabecular architecture of the proximal tibia in obese and non-obese females. High-resolution computed tomography was used to scan the left tibia of five obese and five non-obese, age-matched females. A cubic volume of interest (VOI) was extracted from below the center of the medial and lateral condyles of each tibia. Bone volume fraction, connectivity density, degree of anisotropy, structure model index, and trabecular thickness and separation were calculated for each VOI. Two-tailed t-tests show that obese individuals have significantly greater bone volume fraction and lower trabecular separation in both condyles. Connectivity density, a proxy for trabecular number, was also significantly greater in obese females, but only on the medial side. There is a nearly significant difference in anisotropy in the medial condyle, with obese females having less directionally oriented trabecular structures than non-obese females. Trabecular thickness was not significantly different for either condyle. The results of this preliminary study suggest that the biomechanical burden of obesity is reflected in the proximal tibia trabecular structure of females. The differences between obese and non-obese females are more pronounced in the medial condyle and are due to the addition of trabeculae in obese females rather than an increase in the trabecular thickness. This study contributes to our understanding of how obesity affects the skeleton, and more broadly how bone reacts to mechanical usage.
The Sociological Norming of Members’ Concepts of “Violent Music”
Bernard Glowinski, Sociology, Texas State University

RESEARCH QUESTION
According to different researchers, writers, and disciplines, how music is understood and the relationship of violent music to behavior varies. This project examined the concept of violent music. A review of the literature indicated that the disciplines of musicology, journalism, religion, psychology, and sociology disagree on what is the essence of violent song, the lyrics or the sound. This project generated a social scientific concept of violent music based upon individuals’ perceptions, experiences, and understanding of music by asking the sociological question: What is a violent song?

METHODOLOGY
The sociological component of this study was the assembly of an inventory of popular songs that were perceived and defined as “violent music” by audience members. Following the dictates of symbolic interaction, my analysis was based upon a focus group and a series of questionnaires administered to university freshmen. These questionnaires included items regarding formal music training, religious affiliation, and respondent’s opinions of what a violent song is and why they perceive it as such.

RESULTS AND CONCLUSION
A list of five-songs was compiled using the data from the two surveys and a focus group. Accordingly, respondents perceived violent songs in terms of the adrenaline, energy, and fear the lyrics and sound inspired in the listener. The normed list of five violent songs are:
a. The first genre is *screamo*, which is a subgenre of hard-core punk. The band is *Betraying the Martyrs*, and the song is “Man Made Disaster.”
b. The second genre is *death-metal*, which is a sub-genre of the heavy-metal genre. The band is *Forget my Silence*, and the song is “This Is Only The Beginning.”
c. The third genre is *power-violence*, which is a sub-genre of hard-core punk. The band is *Megrudergrind*, and the song is “Burden.”
d. The fourth genre is *post hard-core*, which is a genre that combines punk rock and heavy metal. The band is *Saosin*, and the song is “Seven Years.”
e. The fifth genre is *death-core*, which is a sub-genre of malcore, but not death-metal. The band is *Suicide Silence*, and the song is “You Only Live Once.”

My research contributes to the scholarly debate over the nature of violent music, moving beyond structuralist definitions of violent music in terms of lyrics and sound to a more interactionist friendly definition of violent music as a situational meaningful experience. This definition will assist an interdisciplinary team of researchers from the College of Education, the Departments of Psychology and Sociology, and the School of Criminal Justice at Texas State University, San Marcos, Texas, to further study violent music and its effects on behavior after mindfulness meditation. Mindfulness meditation was selected as the intervening variable for this project based on the hypothesis that it would decrease the sympathetic responses elicited from violent music, which may alter psychological processes connected to the sympathetic nervous system.
Optic Nerve Astrocytes of Zebrafish (*Danio rerio*) as a Model for Aging Studies Linked to Alzheimer's Disease in Humans
Pedro Gonzalez Jr., Melissa Esparza, & Dana M. Garcia, Biology, Texas State University

**Research question**

Astrocytes help maintain neuronal health within the central nervous system (CNS). In humans, senescence of astrocytes is related to sporadic Alzheimer’s disease. Astrocytes uniquely express glial fibrillary acidic protein (GFAP), a type of intermediate filament. High levels of expression of GFAP are one indicator of reactive astrocytosis. Since increased expression of GFAP is a characteristic response to injury or disease, we hypothesize that increased expression of GFAP in the optic nerve of zebrafish correlates with senescence. We also predict increased levels of GFAP will correlate with the appearance p16, a protein that is used as a marker for senescent cells. If both of these indicators for aging and senescence are observed, then zebrafish may be a defensible animal model for understanding Alzheimer’s disease in humans.

**Methodology**

The fish will either be raised in fish tanks located in Room 272 of the Supply Science Building or purchased from ZIRC to ensure that the fish are the specific age required for data collection that will allow us to test if there is a trend in expression of *gfap*. Fish will be euthanized and then placed in 4% paraformaldehyde solution and left overnight. The next day, the fish will be washed in phosphate buffered saline solution three times. Afterwards, the fish will be measured, sexed and then placed on a stereomicroscope for dissection. Eyes and brain of the fish are removed and placed in a 30% sucrose solution. The tissue will be frozen, embedded and sectioned into 20 μm thick sections using a cryotome and then adhered to gelatin-coated coverslips. The sections will be stored until they are ready to be immunolabeled. Antibodies for immunolabeling Gfap will be anti-GFAP (zrf-1) raised in mouse (1:200 dilution) as the primary antibody and goat anti-mouse Alexa Fluor 488 (1:300 dilution) as the secondary antibody. The same protocol will be used for immunolabeling p16, but with the addition of anti-p16 antibody and the appropriate secondary antibody. Once labeling is complete, the tissue sections are observed and positive and negative control images are acquired using an Olympus FV1000 confocal laser-scanning microscope.

**Preliminary results**

Previous research indicated that astrocytes in the optic nerve of zebrafish do not express GFAP. However, we unexpectedly observed that the optic nerve of a 30 month old, transgenic zebrafish that produces green fluorescent protein (GFP) in cells that normally express GFAP showed expression of GFP in the optic nerve, implying that
GFAP was expressed by astrocytes of the optic nerve. Based on these observations, further experiments using fish from ages 3 months to 5 years of age are underway to test our hypothesis.
Nanostructures have been proven to be viable vehicles for drug delivery, in the simplest form of drug agent distribution, because of their small size and innate ability to easily traverse physiological boundaries. Biomolecules such as DNA and RNA could be degraded before reaching their target cells, but intercalation of these biomolecules with nanoclay has been shown to protect the biomolecules/drug from chemical and enzymatic degradation. Halloysites are considered eco-friendly and have been proven to have fewer toxic effects on human health when compared to carbon nanotubes. Montmorillonite (MMT) is a nanomaterial that has shown great promise for gene and drug delivery into human cells. The research goal of this project is to study and analyze the association of biomolecules such as RNA and DNA with nanoclays with proven capabilities for transporting biomolecules and drugs into human and animal cells. The data from this research can contribute to the field of biomedicine in the context of gene therapy and drug delivery.
Problem in Relation to Existing Research

The historiography of the dispersal of chemical warfare agents, like Agent Orange, during the Vietnam War remains a growing, yet largely underrepresented, field of military history. In 1965, four years before the sluggish withdrawal of U.S. forces from Vietnam, *The New York Times* published the first announcement of the U.S. military’s use of chemical weapons during the conflict. In the decades following the conclusion of hostilities, historical scholarship surrounding the war grew to include the political decision-making, subsequent policy enactment, and the historical context in which herbicidal operations in Vietnam commenced.

Vietnam was a theatre of war, fought over a vast territory, where the enemy remained elusive and where traditional battle lines seldom existed. Minor successive Vietcong defeats created a new situation that caused U.S. forces to alter their strategy and tactics, incorporating new operational approaches to the war. My reexamination of the *U.S. Army Counterinsurgency and Contingency Operations Doctrine, 1942-1976* will elucidate the combat circumstances surrounding soldier deployment in the region and the incorporation of a counterinsurgency policy that included the dispersal of Agent Orange. This paper serves to inform a greater historical understanding of the American strategies and tactics implemented in the region through the incorporation of oral histories.
Methodology:

Military theory, oral history, environmental history, and sociology.

Results or Preliminary Results and their impact on the Field:

To secure American interests in Vietnam by blocking the communist threat, U.S. troops participated in ecological and psychological warfare. Agent Orange had a supporting role in Pres. Kennedy's Counter-Insurgency Plan, as the herbicide improved aerial and ground visibility and applications around U.S. base perimeters offered additional protection to American troops stationed in the region. Efforts to utilize herbicides and non-lethal chemical agents as part of the overall counterinsurgency operation generally did not prove successful, even though similar operations along rivers and canals had favorable results. The reason U.S. Army-initiated herbicide missions were unsuccessful was because high-level military leaders relied upon the continued use of defoliants as the means to pacify the South Vietnamese after the failure of Pres. Diem's strategic hamlet program. Agent Orange had tangible tactical benefits, but due to failure of the larger pacification strategy, it had limited success overall.
Pablo Larraín's "NO" and the Memory Market
Emily Hammett, Modern Languages, Texas State University

Movies are made in order to share stories. Concerning the story of Latin America, there is a pattern of storytelling in their history: the story told by the government and the story told by the people. Due to the vast difference of accounts of the past, a search of truth emerged creating a market: the memory market. Today, this market is used in Latin America by both the government and its citizens in order to maintain their individual views; those who want to continue supporting the history written by government accounts and those who wish to recover the lost voices of their people during the 1970’s and 1980’s.

In his movie No, Pablo Larraín explores the remarkable story of the fight for democratic elections through the plebiscite election of 1988 in Chile. Due to global pressure, the military dictatorship of Augusto Pinochet (1915-2006) called for an election in order to test his permanence in power. The citizens of Chile would line up to vote SI for Pinochet to remain in office or NO in support of holding democratic elections in order to elect a new president. The movie follows the role of the young marketing producer, René Saavedra, who is asked to direct the NO campaign. Based on research and analysis of critical articles, interviews and literature, I will discuss how the movie No can be used a social tool in order to bring awareness to how Latin American governments used the market memory in order to control their countries during the 70’s and 80’s.

In conclusion, it is important to investigate these memories because they can create narratives and identities about a population as a whole. In the case of Chile, for the first time in fifteen years, the only memories on record of the dictator, Pinochet, were seen through the global view of the plebiscite. Pablo Larraín examples a respectful manner in utilizing the memory market in regards to Latin American identity by not only showing the two sides of the SI y NO campaigns, but also showing the problems that the NO campaign endured while creating their truth of what was happening in Chile.
Twitter and Native Advertising: Affects on User Perception and Purchase Decisions
Tyler Hammond, Mass Communication, Texas State University

Problem or research question:
With so many users of various social media platforms, it is crucial for consumer brands to have an affective advertising presence. By understanding the affects of native advertising on Twitter users, brands can take this information and implement it in their own advertising approach. This research attempts to answer the following questions: What affects, if any, does native advertising within a Twitter feed have on a users’ perception of that company, Twitter, and native advertising in general? For native advertising on Twitter, there is a promoted label attached to the tweet. Does this visual element create a different perception than non-promoted advertising? How does native advertising on Twitter affect a users’ relationship with that company and their purchase decisions?

Methodology or approach:
This study will conduct a survey with questions and images of native Twitter advertisements using a convenience sample of 18 to 30-year-old Twitter users currently active on the social media platform. This will enable a better understanding of the possible affects on a user’s perception of this type of advertising and its affect on their purchase decisions.

Results or preliminary results and their impact on the field:
With this research brands will have a possible framework to help them better understand the affects of advertising on Twitter users in the target demographic. This understanding may help brands to direct their consumer advertising efforts in a more focused manner.
Effects of NSF GK-12 Resident Scientists on Student Attitudes: A Five-Year Study
Lisa Hanson & Julie Westerlund, Biology, Texas State University

This study examined middle school student attitudes towards science and NSF GK-12 Project Flowing Waters fellows ("resident scientists") in the final two years of a five-year program. In the last two years, a newly developed science attitude survey, My Attitude Toward Science Scale (MATS) was used to survey student [n=1111 students] attitudes. Matched pre and post student attitude surveys were obtained. Both surveys were administered at the beginning and again at the end of the school year. Results indicated significant attitude changes (p < .05, paired two-tailed t tests) in pre/post survey scores in MATS dimensions, Value of Science to Society and Perceptions of Scientists. We demonstrated significant differences in changing students’ attitudes towards science and scientists before and after their experiences with biweekly resident scientists in their classrooms.

Research Questions examine:

1. Attitude Toward Subject of Science;
2. Desire to Become a Scientist;
3. The Value of Science to Society; and
4. Student Perceptions of Scientists

Methodology

The purpose of this five-year study was to examine secondary school students’ attitudes about science from their perspectives in classrooms with PhD graduate students, resident scientists, who had been trained in the 5E inquiry science teaching (Bybee, 2006). The study was based upon a National Science Foundation (NSF) program called Project

59
Flowing Waters, a five-year NSF Graduate STEM Fellows in K-12 Education (GK-12) program. The program funded 26 doctoral students, known as NSF GK-12 fellows, who served as bi-weekly resident scientists in science classrooms in local schools. We analyzed 15 partnerships between secondary school teachers and resident scientists, involving 609 students, during the first three years of the program, in the 2008/09, 2009/10, and 2010/11 school years using a mixed-methods design. In the first three years, a NSF SWEPTS [Scientific Work Experiences for Teachers, ICASL, n.d] student attitude survey was used to survey student [n=609 students] attitudes. In the last two years, a newly developed science attitude survey, My Attitude Toward Science Scale (MATS) was used to survey student [n=1111 students] attitudes (Westerlund & Hillman, 2012). We surveyed student attitudes in three categories in the first three years: (a) science and scientists, (b) student abilities in science, and (c) importance and usefulness of science. Matched pre and post student attitude surveys were obtained. We analyzed 17 partnerships, involving 1111 students, in the 2011/12 and 2012/13 school years using a quantitative design. We surveyed student attitudes in how they felt about science, scientists and the value of science to society. Both surveys were administered at the beginning and again at the end of the school year.

**Result & Conclusion**

The Results indicated significant attitude changes (p < .05, paired t test) in pre/post survey scores in SWEPTS survey dimension Beliefs about Science Work and Careers and in MATS dimensions, Value of Science to Society and Perceptions of Scientists. We demonstrated significant differences in the perceptions about scientists and the value of science to society in the last two years. There were changes in attitudes in a positive
direction towards science and scientists across all five years but not in all partnerships. We will discuss partnerships in which little to no change occurred in secondary student attitudes towards science.
Promoting Sustainable Consumption Through The Use of Social Media  
Desiree Hazel & Jiyun Kang, Family and Consumer Sciences, Texas State University

Social media has become an integral part of the way we communicate. Not just for personal use, social media is utilized by businesses as a marketing and branding tool to communicate and increase their engagement with customers. In the meanwhile, sustainable consumption is a topic of rising importance. Issues such as water contamination and climate change due to pollution and events such as the Rana Plaza collapse have increased awareness of environmental and ethical issues making the subject of sustainable consumption, which involves consuming differently and more efficiently, an essential area of focus. However, there is limited research on promoting sustainable consumption among young consumers through the use of social media. In order to fill the gap left in literature, this study aims to examine how social media possibly contributes to sustainable consumption. Based on preliminary literature review, we hypothesize that communicating corporate social responsibility (CSR) efforts through social media can lead to increased brand awareness, which in turn strengthen brand loyalty. More specifically, the hypotheses depict that if consumers are exposed to more CSR communications through social media, they will show a higher level of CSR awareness as well as a stronger loyalty toward the brand that makes commitments to CSR practices. Through an online survey with a large number of young consumers, we will test our hypotheses. This study will offer significant and practical implications for sustainable and/or ethical brands to build better relationships with young consumers through the right use of social media.
College Students Preferred Sports Media Platform
Joe C. Hernandez, Mass Communication, Texas State University

Problem or research question:
There has been a long-standing debate over which delivery platform sports audiences prefer, traditional (television and radio) or new media (Internet streaming, social media, etc.). This research will explore the relationship between college students (18-25 years of age) and their preferred use of different sports media platforms.

The theoretical framework I will be using is the uses and gratifications theory to frame my research on college students preferred sports media platform. This will help determine the reasoning behind choice of platform and explain why students are using one platform over the other. This topic is important because with the rise of new media, traditional media platforms are having to adapt to the different ways fans are consuming sports media content.

Methodology or approach:
Through a convenience sample of approximately 100 college students at a southwest Texas university, a survey using a Likert scale will help ascertain which specific platform is their preferred choice, traditional (television, radio) or new media (social media, internet streaming, etc.).

Results or preliminary results and their impact on the field:
The results of this research will potentially demonstrate that students will have a stronger preference for social media platforms, such as Twitter and Facebook, but that traditional media may still be a prominent preference for viewers.
Celebrity Endorsements in Native Advertising on Twitter and their Impact on Consumer Attitudes
Derrick W. Holland, Media and Communication, Texas Tech University

Celebrity endorsements are deployed by companies in a variety of forms. This study focused on celebrity endorsements on Twitter and their impact on consumer attitudes. Source Credibility Theory, Source Attractiveness Theory, and McCracken’s Meaning Transfer Process were applied in order to provide context to the topic and the resulting data. Using a questionnaire, the data from four experimental groups was collected and compared using independent T-tests. This study discovered three significant findings: (1) that celebrity endorsements on Twitter were more likely to result in a favorable purchase intention than celebrity endorsements in a broadcast format, (2) A celebrity endorsement on Twitter would generate more positive consumer attitudes toward the product than a celebrity endorsement in a broadcast format, and (3) A celebrity endorsement on Twitter would generate more positive consumer attitudes toward the product than a created spokesperson endorsement on Twitter. Based on the results of this study, Twitter can possibly be used to endorse products effectively and for a lower cost. In addition to using celebrity endorsements in a broadcast format, which consists of paying for the placement of the celebrity endorsement, production costs for the broadcast format, and recruitment of the celebrity, companies should consider placing celebrity endorsements on Twitter as well.
The Relationship of Compost Knowledge, Compost Attitudes, Environmental Locus of Control and Environmental Attitudes of College Students
Megan E. Holmes & Tina M. Cade, Agriculture, Texas State University; Amy McFarland, Honors College, Grand Valley State University

Problem or research question
--- Food waste is the number one material taking up landfill space in the United States. The Environmental Protection Agency estimates 96% of uneaten food ends up in landfills. Food and other organic wastes generate greenhouse gases in the atmosphere. College campus cafeterias generate a large amount of food waste and some universities are making efforts to capture and compost food waste. The purpose of the study was to measure the impact of a college composting program on college students’ compost knowledge, perceptions of composting, environmental locus of control, and environmental attitudes.

Methodology or approach
--- Undergraduate, graduate, and doctoral students were given a survey which included an environmental attitude scale as well as a compost knowledge survey asking college students to rate their composting habits, knowledge of the composting process, and how composting may make them feel. A total of 660 surveys were collected from two institutions, one in the south and one in the north.

Results or preliminary results and their impact on the field
--- The results indicated a need and desire for compost implementation on college campuses.
The Use of Religious Emotional Appeals in Political Advertising and its Effects on Intention to Vote
Kimberly Hurst, Mass Communication, Texas State University

Problem or research question:

Although research has shown that religion and politics in candidate media advertising have a strong relationship to one another, previous research has not explored this topic objectively to support their conclusions. Candidates may invoke religious emotional appeals in their advertising messages and though these appeals are assumed to be persuasive, research has not been directed at understanding the effect of religious emotional appeals on intention to vote. Utilizing an experimental design this research will explore the effect of religious emotional appeals in political advertisements on a viewer’s intention to vote. The questions this research will attempt to answer are: Do voters who are more religious have a positive attitude toward a religious advertisement and will they be more likely to vote for a candidate? Will voters who are less religious have a negative attitude toward the religious advertisement and will they be less likely to vote for a candidate?

Methodology or approach:

The researcher will conduct an experimental design to explore the effect of religious emotional appeals in political advertisements on a viewer’s intention to vote. A convenience sample of college-aged voters will be recruited from a large university in central Texas. Participants will be asked to watch an adapted political ad that uses religious imagery and to fill out an analytical questionnaire to measure their perceptions to the advertisement, the candidate in the ad, and their intention to vote for the candidate in the ad.

Results or preliminary results and their impact on the field:

The results from this study may provide insight on the intricate relationship between religion and politics, and how religious emotional appeals influence voting behavior.
Syntactic Analysis of Narratives Produced in English and Spanish by Bilingual Preschoolers
Rachel Coy Huth, Celeste Domsch, & Maria Resendiz, Communication Disorders, Texas State University

Problem or research question in relation to existing research:
The language development of bilingual preschoolers has been relatively well-documented in terms of vocabulary acquisition (Hoff, Rumiche, Burridge, Ribot, & Welsh, 2014) and narrative development (Squires et al., 2014). For example, previous work by Fiestas and Peña (2004) found that bilingual children produced narratives of equivalent complexity using wordless picture books, regardless of language. However, children used initiating events in Spanish, while producing more consequences in English. These differences may result from characteristics seen in the social uses of each language.

Complex syntax has not been frequently examined in bilingual preschoolers. Typical monolingual preschoolers use multiple clause types including marked and reduced infinitives, as well as coordinated and subordinated clauses and full propositional complements (Diessel, 2004). This study aims to identify these types of syntactic structures in both Spanish and English narratives produced by two bilingual preschoolers.

Methodology:
Once IRB approval was obtained, parents completed consent forms and a questionnaire describing language use. This study included two Spanish-English bilingual, typically-developing, female participants. Subject A was 5;2 and B was 5;5 prior to intervention. Both subjects’ mothers reported high school as their highest level of education and both fathers had similar employment according to Hollingshead (1975). Subject A was reported to speak Spanish 52% of the time, English 0% of the time, and a mixture of both languages 47% of the time. Subject B was reported to speak English 54% of the time, Spanish 34% of the time, and both languages 12% of the time during the week. The participants were in bilingual preschool classes, which followed a transitional model, with 90% of instruction provided in Spanish and 10% of instruction provided in English.

A common tool for eliciting narratives from preschoolers has been the use of wordless picture books in the Frog series (e.g., Mayer, 1969), as in Squires et al. (2014). In this study, pre- and post-intervention narratives using Frog stories (Mayer, 1969) were elicited in Spanish and English for both children. Narratives were then transcribed using SALT (SALT, Miller & Iglesias, 2012). This study reports only the pre- and post-intervention narratives for these two participants, and does not report overall results for the intervention.
Results:

Preliminary analysis of Spanish and English narratives for the two participants indicates that the use of reduced infinitives, marked infinitives, coordinated clauses, subordinated clauses, and full propositional complements increased in both languages from pre-intervention to post-intervention. Participants also increased in their total number of utterances, number of different words, and number of total words in both languages. It is not possible to divide the gains that were identified as coming from the intervention, from the general preschool educational setting, or from linguistic maturation. However, this study indicates that syntactic analysis of narratives produced by bilingual preschoolers yields an overall pattern that parallels that of monolingual English preschoolers.

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References


Fashion Blogging and the New Consumer-centric Fashion Leadership
Aimee Jones, Jiyun Kang, Family and Consumer Sciences, Texas State University

Problem or Research Question:
With the significant advances of information and mobile technology, fashion blogging via social media has become a new, burgeoning form of fashion information acquisition among general consumers, especially millennial young consumers. In the meantime, the print sales of fashion magazines, which have long been traditional media for consumers to look up fashion information, have been steadily declining over recent years. Would these two phenomena happening in fashion market places be significantly related? In the midst of the rise of new fashion opinion leaders among consumers, fashion bloggers, why do young consumers turn to relying on fashion bloggers rather than reading fashion magazines? These questions remain unanswered given extant research on the role of fashion blogs in redefining fashion opinion leadership is extremely limited. In order to address this gap, this study will explore young consumer preferences in acquiring fashion information, understand the hidden motivations/reasons underlying the behavior, and determine the role of fashion blogs in exerting opinion leadership to fashion followers.

Methodology:
The study will be based upon a qualitative method by conducting focus group interviews with undergraduate students in the fashion merchandising program at Texas State University.

Results/Preliminary Results/Impact on Field:
This paper will provide important information to aid fashion brand marketers when attempting to identify fashion opinion leaders as well as the followers in an ever-changing market. In addition, by providing the understanding of the readers’ behavior and underlying needs, this study will help fashion magazines utilize this information in order to strategically respond to the changes and attract and maintain readership of young consumers.
Tapping Into the Essence: An Examination Of Images In Essence Online
Dana Kelly, Mass Communication, Texas State University

Problem or research question:

This research analyzes the online visual timeline of ESSENCE.com in order to examine whether or not the material provides positive or negative visual images for African American women. ESSENCE, founded in 1968, is a lifestyle, fashion and beauty magazine created for African-American women. Essence.com, a subset of the magazine brand, offers multiple paths for readers to follow including blogs, photo galleries, video programming, and an online community. This research asks the question: Does the online visual timeline of ESSENCE.com provide a positive or negative visual image for African American women?

Methodology or approach:

A content analysis of ESSENCE.com will be used to study the types and frequency of particular images presented to readers to determine whether or not the brand portrays African American Women in a positive or negative manner.

Results or preliminary results and their impact on the field:

Preliminary findings show that the images are diverse in the representation of Black beauty; however, issues surrounding role model choices, cover features, and the handling of social concerns persist. This research is intended to further the discussion as to how to better balance the images African American women are exposed to in order to help facilitate social change within their communities. In addition, solutions will be offered as a starting point for online magazines to consider.
Heroines Like Me: The Portrayal of Strong Women in Contemporary Science Fiction and Fantasy Cinema
Rebecca Larson, Mass Communication, Texas State University

Problem or research question:

Science fiction and fantasy genres in cinema provide unique opportunities to portray abilities outside the realm of reality or to contrast the ordinary with the surreal. The past decade has seen a surge in successful movies with strong female leads and/or female supporting characters whose storylines capitalize on these opportunities. These roles have been seen as a challenge to the typical portrayal of women in film as traditionally feminine, vulnerable and dependent on a male hero. This research will investigate the nature of these heroines and examine how they relate to the larger plot and cast to which they belong. The research attempts to answer two questions: How successful is the symbolic rebellion of strong female leads and supporting characters in science fiction and fantasy cinema? Is this success due to the fact that these characters remain tethered to Hollywood’s historic beauty standards: thin, white and conventionally attractive?

Methodology or approach:

Through a review of research concerning feminist icons, both within science fiction and fantasy cinema and elsewhere, as well as a detailed content analysis across and within films, the study aims to define these roles and the audience their creators purport to inspire.
Results or preliminary results and their impact on the field:

Based on existing literature, the expectation is that many of these roles do illustrate successful challenges to traditional portrayals of women in cinema and are capable of reframing objectifying scenarios as moments of empowerment. However, this success most likely remains small in scope considering the restrictive nature of these roles in terms of who is chosen to play them and who, from the audience, might feel represented by them.
Unraveling the Threads of Madness: Henry Russell’s “The Maniac”
T.J. Laws-Nicola, Music, Texas State University

Henry Russell was best known as a composer of more than 300 songs. His compositions were popular for both their sentimental texts and those of a more political nature. Russell had written such songs of advocacy as those associated with abolitionism and environmentalism. “The Maniac” is his only composition addressing the issue of institutionalization. The text is borrowed and adapted from the monodrama “The Captive” by M.G. “Monk” Lewis. Through an analysis of form, harmony, melody, text, and thematic development we can approach a clearer understanding of “The Maniac” and how the text and music interact.
Migrant Education in Shanghai: Policy Implementation and Impact
Dongmei Li, Educational Administration, University of Texas at Austin; & Tak Cheung Chan, Educational Leadership, Kennesaw State University

Problem
It is difficult for Chinese migrant children\(^1\) to attend local urban public schools because they do not hold local hukou\(^2\) (household registration status). Since the late 1990s, the central government has urged host governments to be responsible for educating migrant students and to ensure their equal access to public schools. In the late 2000s, the central government mandated free compulsory education in urban public schools. However, local governments are slow to respond and children without resources are still unable to receive public education.

Purpose
Existing research largely investigates migrant children’s educational experiences within private migrant schools and few of them are empirical. Fewer studies examine the practice of migrant education policies in public schools. This study aims to fill this void in literature.

The purpose of qualitative study is to explore how public schools implement policies of free compulsory education and equal access from the perspectives of parents.

Methodology
The research site is a suburb of Shanghai. Shanghai does better in educating migrant children than other cities and the suburb is where many migrant workers work and reside.

The interviewees are 12 migrant parents recruited through personal networks and “guerrilla interviewing”\(^3\). They are diverse representing 11 cities of 9 provinces.

Data were collected between January and June of 2015 via face-to-face interviews and asking follow-up questions. They were manually analyzed and coded for cross-case themes.

Results and Significance
Results of data analysis show that all the parents verified free compulsory education being guaranteed in the public schools under study. The findings in this study do not support the equal access policy. Although the interviewees have worked and lived in Shanghai for an average of 10 years, they must submit additional documents to register their children. Schools required a range of 1-3 documents, schools required a range of 1-3 documents. Prior to 2014, property title was not a must but required by some schools.

Two participants that with high education background thought schools discriminated

\(^1\) Here I use migrant children to refer to those whose parents are non-local residents. They might be rural or urban residents from other cities.

\(^2\) China’s hukou (China’s household registration) system has been in place for more than half a century. Hukou (rural or urban, smaller or larger cities) determines a resident’s opportunities of public and high education, access to free medical services, and other benefits. Basically it is impossible for rural people with or without college degrees to become urban residents. It is also hard to urban residents from other cities to receive local residency in such metropolitan cities as Shanghai, Beijing, and Guangzhou.

parents by people’s appearance. This is because they were able to enroll their children without being asked for property title in 2005 and 2013, respectively. It is unknown whether personal connections are a factor as literature suggests. By contrast, an uneducated and unsophisticated couple cannot register their two children in 2007 as schools asked for property title. Basically, the implementation across schools varies.

Consistent with literature, the findings of this study show that migrant education has not improved in Shanghai. Additional barriers keep poor migrant children out. Only those that can afford a real property or receive exceptions can register their children in public schools.

This study will contribute to literature by providing empirical evidence of the status of migrant education in China. The findings of this study may serve as a good reference for governments to inform migrant education policy changes. People concerned with migrant education may utilize the results for advocacy.
Impact of the 2014-15 Ebola Outbreak on Feelings of Community Belonging Among the Liberian Community of the Dallas Metroplex
Rex Long, Anthropology, Texas State University

Research Question

1. What impact did the recent Ebola outbreak have on perceptions of community belonging? How does social interaction with members within and outside of the Liberian community impact that feeling of community belonging?

Methodology

The data were gathered through one on one interviews, observations of group events, and a quantitative survey.

Preliminary Results

Preliminary results point to the role of religion in coping with disease scenarios. Use of religion was a primary method that individuals could utilize to ‘help’ with the crisis in Liberia. Attendance of church services and meetings was also likely an acceptable departure from self-quarantine expectations, and functioned as a method to distribute information within the community. Preliminary results also highlight perceptions and reactions to the way that members of the community were treated by the larger metroplex during the Ebola crisis, as well as how members within the Liberian community treated one another. Data also suggest that distance from Dallas, particularly within the context of Thomas Eric Duncan’s illness and death, created a buffer that resulted in some members of the Liberian community not experiencing the same social interactions or setbacks as other members of the community. Data also suggests that the Ebola crisis caused some members of the community to identify with their Liberian heritage more strongly.

The impact of these data include a greater understanding of local and global perceptions of an immigrant community regarding a host country during a global health scare, highlighting effective methods to communicate medical information to this community, and maintaining general awareness of the deleterious effects of stigmatization as well as the suspected causes of stigmatization within the context of this health episode.
Revising the Federal Protocol for Conducting Presence/Absence Surveys for the Endangered Houston Toad (*Bufo houstonensis*)
Andrew R. MacLaren, Shawn F. McCracken, & Michael R. J. Forstner, Biology, Texas State University

**Research question:**
Does the current protocol provided by the United State Fish and Wildlife Service (USFWS) for conducting Houston Toad presence/absence surveys accurately depict the conditions in which these animals are likely to vocalize? If the protocol does not depict the true life history of these animals, how must the federal protocol be changed to enable adequate detection probability?

**Methods:**
Automated Recording Devices (ARD) were placed at known or potential breeding locations for the Houston Toad within Bastrop and Robertson Counties, Texas. ARD’s were used to capture ten minutes of audio hourly between 6pm and 6am. These data were then reviewed digitally using previously designed automated recognition tools to determine presence or absence of the focal species. Microclimate information was taken using Hygrochron temperature and relative humidity logging devices (Embedded Data Systems), in addition to local climate data from nearby weather stations. In total, temperature, relative humidity, wind speed, moon illumination, moon phase, barometric pressure, and precipitation, were collated for each hour at each site (n=4664).

Principal components analyses were employed to determine which environmental covariates may be influencing the evoked vocal response of the male Houston Toad. The environmental parameters observed during chorusing events were then compared to the assumed conditions outlined by the USFWS federal protocol for audio survey detection.

**Preliminary Results:**
The outcomes of the analyses elucidate the shortcomings of our current guidelines for monitoring one of Texas’ most imperiled amphibians. The present climatic conditions, including record breaking droughts as well as record breaking floods, may be contributing to the differences between what is reported in the literature and what has been experimentally determined. Further investigation into this behaviour over the past half decade are possible, and will likely reveal a change in the conditions to which male Houston Toads respond to stimulus.
An Insight into Groundwater Management and Policy in Texas
Shadi Maleki & J. Craig Hanks, Philosophy, Texas State University

For over a century, groundwater resources in Texas have been allocated under the absolute ownership rights called the “rule of capture.” This rule provides landowners with the right to extract as much as water they desire from beneath their lands, which in practice, may lead to the neighboring wells drying up without any legal consequences for the person who is responsible. Moreover, the law does not offer any mitigation plan for those affected. The rule of capture not only affects negatively reasonable access to freshwater for current and future generations, it is environmentally unsustainable. Thus, in addition to the human implications, the absolute nature of this rule undermines the lives of many non-human species whose lives depend on groundwater sources.

Cultural and political complexities, including a strong culture of private determination of land usage in Texas, create a huge barrier to the substantial modification or replacement of the rule of capture with a more sustainable alternative. The Texas Supreme Court conferred this authority to the legislature, whose efforts over the past two decades resulted in some improvements but not enough to address the groundwater issue.

This study aims to gain insight into the root of the groundwater history, management challenges and the possibilities for improvement. Through the lens of a case-study and interviews, we seek to identify concrete recommendations and a policy proposal for groundwater in Texas.
Research Questions

This research seeks to answer the following questions:

RQ1: How should the rule of capture be modified? What would be a better law look like?

RQ2: Will the rule of capture be adequate to address possible future environmental problems and water shortage in Texas? If not, is overturning the Rule of Capture as it relates to groundwater a realistic option in the State of Texas?

Methodology

This research uses a semi-structured face to face interview as we identify the best method for the purposes of this study. The participants are members of various institutional and scientific entities involved in groundwater management and policy makers in the state of Texas. Using phone or email, the interviewees will be asked for an interview appointment that will take place in participants’ work places during the current semester. The questions are formulated based on the ambiguities emerged from the literature review, aiming to address them and gain recommendations for a more effective policy proposal.

Expected Result

We expect to obtain adequate information to address the current ambiguities about the rule of capture for groundwater management in Texas. Based on this information, we also expect to formulate concrete recommendations for policy makers involved in the future management of groundwater in Texas.
“Life is Short, Have an Affair” The Ideology of Noel Biderman
Terri Manley, Media and Communication, Texas Tech University

Monogamy is dead. At least, that is what Noel Biderman, creator of Ashley Madison, believes. Ashley Madison is a dating website designed for married individuals, and it uses the mantra, “Life is short, have an affair.” This study examines the ideology of the website AshleyMadison.com and its creator Noel Biderman. In 2014, Avid Life Media, parent company of Ashley Madison, reported over $115 million in profits, and Biderman reports that about every 6.4 seconds a new person signs up for the site, making Ashley Madison the second-fastest growing dating website, behind Match.com (Tanner, 2015). This study includes a primary interview with Noel Biderman, creator of Ashley Madison, which reveals insight into the ideological underpinnings of the website. The research suggests that Ashley Madison was not only a reflection of current societal norms, but that it is also an influencer in the development of new norms and narratives within society which contribute to the postmodern condition.

References

Recreation Trail Systems as Geomorphic Entities
Ross Martin & David Butler, Geography, Texas State University

Problem or research question

This research seeks to understand the extent to which recreation trails function as geomorphic systems. Hikers and bikers are considered as agents of geomorphic change. The response of the landscape to these trail user types is reviewed in the context of the ability to effect change in sediment and soil conditions.

Methodology or approach

Literature was reviewed to understand documented cases where hikers and bikers changed soil and sediment dynamics. The changes in soil and sediment are discussed in terms of how it impacts other landscape variables such as vegetation growth and hydrology.

Results or preliminary results and their impact on the field

This study, as others, suggests that hikers and bikers can and do generate geomorphic change. Recreation ecology is typically the field of study under which trail research is conducted. This study seeks to define recreation geomorphologic as a field of study worthy of consideration. The goal of this paper is to call for geomorphologic inquiry into trail systems, which may expand knowledge in the realms of both geomorphology and recreation ecology.
Mainstream Sports Network Gender Bias of Professional Female Basketball Players
Taleya Mayberry, Mass Communication, Texas State University

Problem or research question:
This research explores whether or not mainstream media sports networks are biased in their portrayal of professional female basketball players versus their male counterparts. Sports network portrayals of female basketball players may be negative in comparison to male players by providing poor and damaging media coverage. This may create misconceptions of their ability to play a sport dominated by male athletes and may affect them directly. This research attempts to answer the following question: Is there a gender bias of professional female basketball players on mainstream sports networks?

Methodology or approach:
This first part of this study will conduct a content analysis of the advertising used by two major sports networks (ESPN and CBS Sports) and identify the approach they use to advertise professional women’s basketball. The research will cover the Women’s National Basketball Association (WNBA) the most prominent industry for professional female basketball players. Through a survey the second part of this study will explore how each network’s advertising approach affects viewers.

Results or preliminary results and their impact on the field:
The results of this research will potentially demonstrate the affects media may have on the athletes and their viewers. This research may lead to an understanding of how sports network advertisements, or lack thereof, could lead to a decrease of overall game viewership and create a negative impact on viewers.
Connecting Past to Present: Using New Media Theory in Museum Website Development
Danielle McEwen, English, Texas State University

1. Research Focus

In a climate of economic downturn, increasing dissatisfaction with public educational institutions nationwide, a growing aging population, and an emerging technology dependent society, museum websites and applications are becoming vital resources in aiding museums accomplish their advertised mission statements, vision, values, and priorities. The Internet, widespread public Wi-Fi networks, and wireless enabled mobile devices have transformed American culture and how individuals view, interact, and experience the world around them. Technical communicators tasked with creating content, developing applications, or designing websites for museums are challenged with incorporating various theories, features, and elements to captivate a diverse and increasingly tech-savvy audience. My rhetorical analysis will show how the museum websites I review feature digitally formatted exhibits to remediate the experience of physically standing in front of the artifacts, page design layout to create immediacy, and self navigation to create interactivity.

2. Methodology

I examined the following World War II history museum websites and documented which ways they successfully implement new media theoretical concepts of remediation, immediacy, and interactivity:


Concurrently I evaluated the websites in terms of user accessibility and usability. I used usability guidelines documented on www.Usability.gov, a federal online resource for web designers who want to create and improve website usability. For accessibility I ran the museum exhibit or virtual tour webpage of the website through Achecker.ca, an accessibility evaluation tool and compared the results to the guidelines established by Section 508 Amendment to the Rehabilitation Act of 1973 and WCAG 2.0 Guidelines.

3. Preliminary Results

While these websites incorporate remediation, immediacy, and interactivity to varying degrees, both websites could better employ these concepts in their design in order to correct existing accessibility and usability issues. Based on my findings I propose a strategic model for a better user experience.
This analysis is important to technical communicators working on museum website and app development projects whose aim is gaining interest in history museums through technical communication by way of an easy to use and informative user interfaces. Museums can benefit by using technical communication in their websites and apps to bridge the gap between museum curators and desired audiences in order to promote future museum successes in attendance growth and monetary donations.
The Effect of Plastic Tarps on the Rate of Human Decomposition during the Spring/Summer in Central Texas
Chloe McDaneld, Anthropology, Texas State University

Forensic case reports cite that bodies are commonly covered or wrapped in man-made materials for disposal and concealment. Therefore, knowing if there are differences in the rate of decomposition between wrapped and unwrapped bodies is important for forensic scientists conducting estimations of time since death. While several studies have been conducted on the effects of decomposition when the body is covered or wrapped in materials such as clothing, blankets, and plastic tarps, most of these studies have examined a variety of coverings simultaneously with relatively small sample sizes. Therefore, the purpose of this study is to conduct a controlled investigation of the effect of plastic tarps on the rate and pattern of decomposition in Central Texas using a relatively large sample size. Unlike previous studies, this study will utilize only one type of covering, the sample size will be larger than previously examined, and environmental conditions and dates of death are known.

Human remains covered or wrapped in a tarp provides the perfect environment for decomposition since the tarp may maintain moisture and temperature while providing insects and bacteria protection from the sun and rain. Therefore, it was hypothesized that the plastic tarp will likely increase the rate of decomposition in two ways: 1) by increasing the activity of necrophagous insects, which prefer a warm, shaded and outdoor environment and 2) by increasing putrefaction caused by bacteria that require an aqueous medium. In other words, require fewer accumulated degree days (ADD) to reach each stage of decomposition.

The study sample consists of 20 bodies wrapped in plastic tarps and a matched control sample of unwrapped bodies, both placed on the ground surface in a tree covered area of the Forensic Anthropology Research Facility at Texas State University. The total body score (TBS) was compared between the wrapped and control bodies at 500 ADD and 1000 ADD. T-tests were used to test for statistical significance.

Statistical analyses show that tarps primarily have an effect on the rate of decomposition after 500 ADD. There were no significant difference in TBS between the human remains wrapped in plastic tarps and the unwrapped remains at 500 ADD (p-value= .118036). At 1000 ADD, however, there was a significant difference in TBS between human remains wrapped in plastic tarps and the unwrapped remains (p-value= .0456).

The results show that during the early decomposition period plastic tarps do not have a significant effect on the rate of decomposition, but the tarp may affect the observed pattern of decomposition. As the decomposition process continues, insect activity associated with the unwrapped bodies decreased and the bodies began to desiccate. However, the consistent warm and shaded environment in the tarps allowed for continued insect activity and slowed desiccation. As a result, bodies wrapped in plastic tarps had a greater TBS after 500 ADD than unwrapped bodies. These results
suggest that ADD calculations based on TBS may underestimate the time-since-death for a body wrapped in a tarp if the individual has been deceased for more than 500 ADD.
Bone Histology Sampling Sites for the Identification of Undocumented Border Crossers Along the U.S.-Mexico Border
Lauren Meckel, Sophia Mavroudas, & Kate Spradley, Anthropology, Texas State University; & Victoria Dominguez, Anatomy, The Ohio State University

The death of Undocumented Border Crossers (UBCs) along the U.S.-Mexico border is an unacknowledged humanitarian crisis in the United States. The immense skeletal diversity represented within this group present new challenges in identification as population specific methods are lacking for these individuals. Since 2013, the Forensic Anthropology Center at Texas State (FACTS) has been working to identify UBCs from Brooks and surrounding counties in Texas. As part of this effort, FACTS has accepted 78 UBCs from exhumations and from Webb County (Texas) Medical Examiner’s Office. Due to the nature of the UBC deaths along the border, anthropologists play a vital role in identifying these individuals and repatriating their remains to grieving families.

A critical aspect of UBC identification is an accurate age-at-death estimate to narrow the list of potential matches for repatriation. Previous studies have confirmed that combining both gross morphology and histomorphology age estimation provides a more complete picture of age related skeletal changes. The aim of this study is to examine which bone histology sampling site is the most appropriate indicator of UBC age-at-death to help increase identifications and gain a better understanding of skeletal age in UBCs.

The remains of \( N=29 \) (15 males and 14 females) UBCs were examined using histological analysis of the femur and of the midshaft of the 6th rib. The sex of each individual was determined either by soft tissue or skeletal analysis. Gross morphology age was estimated using standard skeletal age indicators and information gathered from case reports.

To determine the most appropriate histological sampling site for UBC identification, the mean age for each site-specific histological method was calculated. Additionally, the femoral and rib age estimates were compared to the gross morphology age range estimates from each individual. Agreement between histology age and gross morphology age was determined by whether the histology point age estimates fell within the gross morphology age estimate ranges. Interobserver error for each histological method was calculated.

The mean ages for the femur and rib methods were 45.7 and 37.1 years, respectively. Results show that 2% of the femoral histology point age estimates overlap with the gross morphology age estimates, while 93% of the rib histology point age estimates overlap with the gross morphology age estimates. Interobserver error was nonsignificant at \( p<0.05 \). Compared to the gross morphology mean age (33.7 years) both of the histology methods overaged the sample, but the rib method had a lower inaccuracy. However, the remodeling counts of the femur show a positive trend with age (\( R^2=0.51 \)).

The results of this study indicate that the midshaft of the 6th rib is the most appropriate histological sampling site for UBC identification, and overall, the femur method was a poor indicator of UBC skeletal age. However, future research focusing on the anterior femur of UBC groups could prove appropriate for UBC identification if new methods are developed with appropriate demographics.
"Pass the Ban!": A Visual Analysis of Anti- and Pro-Fracking Websites in the Denton, Texas, Fracking Ban Debate
Judson Meeks, Media and Communication, Texas Tech University

Prior to the passage of Texas House Bill 40, which effectively prohibited Texas towns and cities from banning “fracking” (hydraulic fracturing) at the local level, Denton, Texas, was basking in the national spotlight for doing just that. Fracking opponents successfully campaigned to have the process banned within the city limits, an act no outside observer thought possible. It left many political pundits asking: “How did they do that?” In an effort to better answer that question, this study, “Pass the Ban!”, examined two websites – one, a website of a leading fracking opponent; the other, a website of a leading fracking proponent – to see how the groups were communicating with their publics. A visual analysis was conducted to examine images and videos found on the website. Initial results indicated that the anti-fracking group focused their messages on state pride and creating a safe environment for those in the community, while the pro-fracking group focused their messages on being fiscally responsible, both in the present and for generations to come.
An Overview of School Psychology Services in Portugal
Sofia A. Mendes, Isabel M. Pinto, & Leandro S. Almeida, Psychology, Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto

Problem or Research Question:
The provision of psychological services to students is recognized by Portuguese law as an important dimension of the educational process. These services are provided at kindergarten, elementary, and secondary school levels, both in the public and private education sectors. Based on international research in the school psychology field, this presentation aims to describe the status of school psychology services in Portugal.

Methodology or approach:
An online survey was developed drawing on previous research in the school psychology field. The survey focused on central aspects of the profession and addressed topics such as demographic and background information, working conditions, actual and desired professional practices, perceived autonomy, job satisfaction, and main barriers to service delivery. A total of 477 Portuguese school psychologists employed in public (80%) and private schools (20%) participated in this study.

Results or preliminary results and their impact on the field:
Findings suggest that Portuguese practitioners present a demographic and professional profile similar to that observed in other countries. The employment conditions vary widely in public and private schools, with the former presenting more challenging conditions in terms of psychologist-to-student ratios and number of schools served. A so-called child-centered practice mostly focused on higher educational levels was observed. Evaluating and counseling of regular education students appeared as the two professional practices in which school psychologists primarily engage, followed by vocational guidance and special education related activities. Overall, school psychologist’s professional practices tend to adjust to the demands of the school community. Most practitioners expressed the desire to move toward prevention and promotion, training and consultation, as well as research, nonetheless without overlooking traditional roles.

On average, Portuguese school psychologists reported high levels of professional autonomy and job satisfaction. Overwhelming workload or caseload, administrative burden and report writing, professional isolation and feelings of loneliness, emerged as the three most common least liked aspects of the profession. Working and interacting with students, parents and teachers, role diversity, and the opportunity of being stimulated by their work appeared as the favorite ones. Poor workplace and lack of material resources/equipment, time restraints and scheduling difficulties, lack of involvement, collaboration, and resistance of teachers, were the three most commonly identified barriers to service delivery.

Findings suggest the need to improve the working conditions of school psychologists and psychological services for students at all education levels. Several implications can be drawn from these results that are valuable to practitioners, their employers and trainers, policy makers, and professional associations.
Disney and Feminism: A Look at the Growth of the Disney Prince and the Spread of Gender Equality
Megan Mendiola, Mass Communication, Texas Tech University

Problem or Research Question:

Many people have looked at the evolution of the Disney Princess over the years and at how feminism has impacted their roles and portrayals in Disney movies, but no one seems to study the prince and how his role in the movies has changed due to feminism or gender equality. The goal of this paper is to take a more in depth look at the princely heroes in Disney princess movies.

Methodology or Approach:

This paper will integrate diffusion theory, looking at an idea diffusing through society (the idea being feminism/gender equality) and Narrative analysis. Narrative analysis is used to look at the story and see what it says about the culture because the stories that are told in a society reflect the ideal of said society in that point in time. This means that by using both diffusion theory and narrative analysis we can have a peek at the culture through the movie which will tell us about gender equality in that time, which will help to show if there is any evolution in the role of the prince in certain movies.

The movies being looked at in this paper will be the first animated Disney princess movie – Snow White and the Seven Dwarves – and the most recent Disney princess movie – Frozen. Along with this, the paper will look at three more movies to examine the evolution through time. These movies will be Sleeping Beauty, The Little Mermaid, and Mulan. These other movies are spaced out enough between 1937 (When Snow White was released) and now which will help better show the spread of feminism more accurately.
Results or Preliminary Results and Their Impact on the Field:

It is expected that the prince will have a better-developed character and more integrated role in the story as time goes on and feminism becomes more widespread throughout the United States. The timeline should start out with a very two-dimensional prince who does not have a great role in the story and end with a more complex prince who is more integral to the story because the idea of gender equality has picked up popularity and spread well through the country and culture.
How Media Representations of Female Athletes and Fitness Models Affect the Body Image of Athletic College-Aged Women
Jenna Cheyenne Meyer, Mass Communication, Texas State University

Problem or research question:
Women are constantly bombarded with media messages that pressure them to fit a certain physical mold. In the world of health and fitness there exists an extra pressure to have just the right number on the scale, the proper amount of exercise, and the most precise diet in order to look just like famous female athletes and fitness models. Since college-aged women are often a target market for these messages the present study aims to discover how female athletes and fitness models are represented in the media and if these representations shape the way college-aged women who are interested in fitness view their own bodies. The question this research will attempt to answer is: How do media representations of female athletes and fitness models affect the body image of college-aged women who are interested in fitness?

Methodology or approach:
The researcher will conduct in-depth qualitative interviews with college-aged women at a large southwest Texas university who have expressed an interest in health and fitness in order to better understand their perceptions of the media’s portrayals of female athletes and fitness models. A content analysis of representations of female athletes and fitness models as showcased in various forms of media will also be utilized, in order to categorize the types of messages being disseminated to this demographic.

Results or preliminary results and their impact on the field:
This research may find that the media’s representations of female athletes and fitness models are perceived by athletic college-aged women as empowering, but also intimidating and over-sexualized. The study may also find that athletic college-aged women feel an added pressure to be thin, sexy and fit because of the messages they are receiving from the media. Understanding the way that media messages concerning female athletics, health and fitness are perceived will help communicators craft more body positive messages to this demographic.
How do United States Citizens Who Visit Dental Clinics in Mexico Perceive the Violence Along the Border
Caleb Miller, Anthropology, Texas State University

Research Question

How do United States citizens who visit dental clinics in Mexico perceive the violence along the border?

Methodology

Data was gathered through interviews with United States citizens who visit dentists in Mexico, and observations in Nuevo Progreso, Mexico.

Preliminary Results

The preliminary results of this research indicate that the perception of violence along the Texas/Mexico border varies among United States citizens who visit dentists in Mexico. Specifically, those who live close to border are more concerned with the violence, and are more cautious in planning their trips into Mexico. Those who do not live near the border, often believe that the violence is overstated by the media, because they have not witnessed any violence during their visits to Mexico.

Through observations and interview data, Nuevo Progreso is shown to be safer than the surrounding Mexican border towns. However, Nuevo Progreso’s safety is still dependent on the purpose a visitor has for being there. Nuevo Progreso is home to over a hundred dental clinics, treats thousands of United States patients year round, and is a profitable tourist destination. This flow of income gives the Gulf cartel reason to keep the violence that is present in the nearby cities of Reynosa and Matamoros from overflowing into Nuevo Progreso. However, the Gulf cartel still has an active presence in Nuevo Progreso.
Banging Heads – Media Portrayals of Injuries in Professional Football Before and After the Death of Mike Webster
Alexander Moe, Media and Communication, Texas Tech University

This study addresses the influence of a trigger event on mainstream news coverage of injuries in professional football. In 2002, four-time Super Bowl winner and NFL Hall of Famer Mike “Iron Mike” Webster passed away due to what is known today as Chronic Traumatic Encephalopathy (CTE), a condition that develops in the brain after multiple impacts. It has been confirmed that Webster sustained CTE from his 17-year NFL career, although medical evidence at the time of his death did not exist, and his passing was instead attributed to heart failure. The purpose of this study was to conceptualize what is considered to have served as an aggregate to emerging discussions in regards to injuries, more specifically concussions in the sport of football. This is an empirical analysis as the study content analyzed 496 newspaper articles from outlets that have previously been recognized as intermedia agenda-setters. The findings suggest that a triggering event such as that of Webster’s death spur conversations that cannot manifest based on anecdotal evidence alone.

*Keywords:* Agenda-setting, trigger event, professional football, concussions, CTE
Correlations of Alcohol Use, Anxiety, and Depression in Military Veterans Attending College
Julia Moore & Ashley Sailors, Psychology, Texas State University

The purpose of the current study was to examine alcohol usage and related risk factors among both older and younger military veterans in a college environment. The participant sample was composed of 62 veterans (15 female) aged 21 to 64. Participants completed surveys about their military experiences, medical and psychiatric histories, current anxiety and depression and drinking history. Statistical analyses focused on the comparison of survey responses from younger (age < 32; N = 23; 7 female) and older (age >= 32; N = 33, 8 female) veterans. These groups were equal on gender, ethnicity, branch of service, history of deployment, and combat experience, though the older group reported a greater total length of military service. Older and younger veterans were similar in terms of current levels of depression and anxiety, PTSD diagnosis and lifetime diagnosis of any psychiatric disorder. Quantity and frequency of alcohol use differed between younger and older groups, with the younger group reporting higher quantity/frequency of alcohol consumption compared to the older group. In the younger group, quantity/frequency of alcohol consumption was also positively correlated with anxiety and depression, whereas, this relationship was not noted for the older group. Total length of military service and combat exposure were not related to quantity/frequency of alcohol use in either age group. Correlations between drinking and anxiety or depression have been reported previously in the alcohol research literature. In our sample, it is possible that veteran students may be consuming alcohol as a coping mechanism to deal with their symptoms. Future studies should explore factors that may influence these age-related differences in the relationship between alcohol use and negative affect among college veterans.
The Bold, The Beautiful, The Bacchae: Camping up a Classic
J. Robert Moore, Theatre and Dance, Texas State University

Queer theorist Susan Sontag’s essay "Notes on 'Camp'” describes the key elements of “camp theater” as artifice, frivolity, naive middle-class pretentiousness, and 'shocking' excess. “The Bold, The Beautiful, The Bacchae: Camping up a Classic” discusses the usage of Sontag’s comedic "camp theater" techniques in David Greig's translation of Euripides’ The Bacchae (406 B.C.E.), and their effectiveness in relaying this tragedy to a modern audience. First, a brief overview of Sontag’s Camp techniques and their origins will be discussed. Second, the original intention of Greig’s more colloquial interpretation will be overviewed using his article “The Bacchae: Notes on the Adaptation and Translation.” Third, pairing Greig’s article with his translation, the discussion will reveal how Grieg’s camp enhancements serve to further illuminate Dionysus as a foil to Pentheus by exacerbating the wit, femininity, cunning, and bacchanalia which Dionysus embodies. Finally, according to his article “A Greek God and His Groupies are Dressed to Kill,” by New York Times author Charles Isherwood, analyze the use of Greig’s text in The Lincoln Center Festival’s production, and how it serves to turn the story into a riotous experience for modern audiences, while also making the final tragedy seem out of place. “The Bold, The Beautiful, The Bacchae: Camping up a Classic” describes how camp comedy is perfect to enhance the character of the pan-sexual Greek god in The Bacchae, yet its comedic effect derails Euripides’s original dramatic intent for modern audiences.
Narratives of Mortuary Science Learners and Graduates: A Qualitative Case Study
Jose Luis Moreno, Counseling Leadership Adult Education and School Psychology, Texas State University

Problem
Research in Mortuary Science seldom reports on student learning experiences. Most studies use a quantitative methodology. Using the anatomy of the story as a framework (Guajardo & Guajardo, 2010), this qualitative study reports the narratives of nine Mortuary Science learners and graduates from an accredited two-year Mortuary Science program in Texas. The research questions are: (1) what can we learn from the narratives of Mortuary Science learners and graduates? (2) what are the learning journeys of nine individuals currently enrolled or graduated from an accredited two-year Mortuary Science program? (3) what challenges and successes have they experienced during their residence in the program, their internship, and the process of obtaining a license?

Method
Data for the study include ethnographic interviews, artifacts, documents, and the researcher’s analytic journal. Data analysis was multilayered and included several phases. First, MAXQDA software served to code the data using a priory codes (navel, heart, mind, hands, and legs) using the study framework. Next, the coded data was retrieved into a separate Word document to code it again for triangulation purposes. Then, data reduction ensured that data included in the final report of findings were strong and relevant. Narrative analysis techniques (story as data collection and analysis) were at the center of reporting study findings to be faithful to storytelling and the anatomy of the story framework.

Results
Using the human anatomy as a metaphor, study findings are presented through navel, heart, mind, hands, and legs. The study participants represent the navel. A rich description of nine Mortuary Science (MS) learners and graduates and career journey is provided. The heart represents the values that professionals in MS seek to instilled in learners and practitioners: empathy, care and respect for the dead, investment and satisfaction with a job well done, confidence, and eagerness to learn. The mind speaks to the critical analysis of the story to dismantle stereotypes held by learners such as performing autopsies, just dressing and cosmetizing the deceased and minimum interaction with surviving relatives. The hands mold ideas and values to develop a new identity for the characters involved. Here the participants reflected on the changes necessary to improve the profession. They identified the need for team development, relational learning, and workplace learning. Finally, the legs provide mobility to the story to create an impact beyond the story teller and move people to action. This metaphor symbolizes the eagerness and good disposition of the study participants to create legacy to pave the road for the next generation of Mortuary Science professionals. Learners and graduates spoke about career motivation, career development, the importance of passing on their wisdom, and the need to plan for a future where they are no longer protégés but had become effective mentors. Finally, implications for practice, tensions and challenges related to the study, ideas for future research, and concluding thoughts are provided.
Uses and Gratifications of Space: Understanding How and Why College Students Do Or Do Not Engage with NASA’s Social Media
Jeremy Mullins, Qian Yu, Colin Woods, Carl Clark, Mass Communication, Texas State University

Introduction: NASA has through its existence enjoyed overall support from the American people. However, this does not translate to public knowledge of the space agency or active engagement with NASA’s communications efforts by a majority of the general public (Launius, R. 2003). As NASA prepares to implement its plans to send humans to Mars in the 2030’s, along with a large number of unmanned missions (National Academy of Science 2014), public engagement is more critical now than ever (Billings, Linda 2006; Steinberg 2011). It is understood there is a small segment of the population, which pays very close attention to the agency (National Academy of Science 2014). NASA would benefit from knowing what new segments of the population might be reached, outside of the relatively small group of NASA devotees. This could be useful for gaining an increase in public and political support.

Problem: How can the Uses and Gratification theory help NASA understand why people do and do not use its social media? Furthermore, there is a severe lack of research on the public opinion of NASA and why the public do or do not pay attention to their content.

Question: Why do college aged students use or not use social media content pertaining to space exploration, specifically NASA?

Theory: The uses and gratifications theory applies well to the new age of social media on the web (Ruggiero 2000). Uses and Gratifications can be defined as an attempt at understanding how and why people actively seek out specific media to satisfy specific needs.

Methodology: A 45-minute focus group discussion was held and recorded with 8-12 students from a large public university in Texas. They were from different disciplines and classifications to help determine what uses and gratifications are being or are not being filled by engaging with NASA’s social media. The subjects were found by a convenience sample of the university’s student body.

Expected/Partial Results: This demographic is important for NASA to consider as college students they will be adults throughout NASA’s hopeful, human exploration of Mars. They are also the first of the internet generation, thus learning what they use the internet for will likely be useful for drawing conclusions about the future use of social media.

Some of the information which was found from the focus group, is people used NASA’s social media to fill different gratifications. The science students in the group engaged
with NASA information that made them feel connected to both the people at NASA and helped them find a connection to their work and that of NASA’s. Other subjects engaged directly with NASA’s social media for the beauty of the images NASA posts on its social media. Another area of interest was how the group perceived barriers to engaging with NASA’s social media content and NASA’s perceived relevance or lack thereof to the subjects’ daily lives. These problems of reach and relevance hinder NASA’s ability to find uses and gratifications for people who do not currently engage with its posted content.

References


Communication Apprehension with a Future Mother-in-law Examined via Memorable Messages and Sources of Memorable Messages
Mary S. Norman, Media and Communication, Texas Tech University

Relationships with a mother-in-law are often fodder for jokes in the media and in our society, but is there any truth in these jokes? How is one to have any positive expectations of a relationship with his/her mother-in-law when he/she have been previously bombarded by mostly negative messages? These questions were examined in my previous study on communication apprehension with a future mother-in-law. Since the time of completion of the study, some sources of the messages have changed and developed. One source of the memorable messages is the media. In my previous study on communication expectations with a future mother-in-law, I took a survey approach aimed at gathering memorable messages and was interested in the interpersonal communication implications. In an updated study, I propose the addition of mass communication with a focus on cultivation theory. My original research was completed in 2008, thus I propose a reassessment of the existing and new literature and a revised study. My previous research questions focused on (1) what was the content of memorable messages concerning a future relationship with a mother-in-law as well as (2) the sources of memorable messages concerning a future relationship with a mother-in-law. In the proposed new study, I would like to gather more information on the source of media portrayals. My previous study revealed that the media was the second ranking source for memorable messages with a future mother-in-law. However, I feel that I missed the opportunity to glean more specific knowledge on the types of media and the types of media portrayals. Specifically, I would like to investigate (1) through what media mothers-in-law depicted, and (2) How are the depictions of mothers-in-law perceived by the viewer.

The methodology previously utilized was a questionnaire survey. The sample was obtained through college courses. While this does exclude a large segment of the population, it did allow access to a sample that was not yet nor had never been married. When studying communication expectations, it is required that the participants have not already encountered the relationship under investigation so that expectations and true apprehension can be gauged as opposed to a recall of previous experiences. In this proposed study, I would keep the methodology the same and survey a sample of college students.

The results of my previous study determined that the predominant source of the memorable messages was the participant’s own mother (22.36%). This source was quickly followed by media (15.78%) and friends (10.52%). I am interested to see if my prior results would be consistent with new results or if the changes in media will show any effect. The majority of the memorable message content centered on maintenance (30.3%), socialization (28.9%), and negativity (22.4%). Again, it will be interesting to note how the content of the memorable messages has changed, if any.
Career Support for Former Foster Care Students in Higher Education
Christine Lynn Norton, Dawn Flores, Social Work, & Naomi Valdez, Retention, Management, and Planning, Texas State University

Problem or research question: Foster care agencies report that only five percent of foster children go to college and fewer than 2% of foster children graduate with a bachelor’s degree or higher. This is compared with 27% from the general population. Many of these students do not have the social and emotional support they need to succeed in college. Having aged out of the foster care system, they may be confused, nervous about course work and grades, and struggling financially. Likewise, career indecision can be a risk factor for dropping out. Retention efforts in higher education are critical to prevent negative outcomes for former foster care students. Career counseling is an important retention tool to help provide direction for these students.

Methodology or approach: This research study utilizes a case study approach to examine the importance of career support to promote retention, graduation and financial independence with this population.

Results or preliminary results and their impact on the field: Targeted career support is needed for former foster care youth. Findings show that career counseling with former foster care students should focus on providing career opportunities, communication skills and relationship building. Career mentoring can also be helpful, as well as opportunities for former foster care students to discuss how their childhood experiences influenced their choice of career.
Constructed dreams: Stories of identity and Language Reveal Educational Challenges and Goals in Rural South Africa
Kristie Carol O’Donnell & Lori Czop Assaf, Curriculum and Instruction, Texas State University

The purpose of this study is to uncover participants’ perceptions of sociolinguistic barriers to achieving higher education through stories the participants tell about their lives in regard to their language and their education.

Founded on the field of developmental education and literacy studies, research supports the fact that sociolinguistic and educational acculturation challenges many students throughout the world, and in this study, South Africa in particular face when trying to achieve secondary and tertiary education (Makalela, 2005; Mutasa, 2014; Seabi et. al, 2014; Sebolai, 2013). Language, as an essential aspect of educational acculturation, is ideological and represents privilege (Gee, 2013; New London Group, 1996; Prinsloo and Janks, 2002). Mastery of privileged languages and access to a privileged system are important elements of college success (Makalela, 2005; Mutasa, 2014; Prinsloo and Janks, 2002). But what happens when a student’s culture comes into conflict with academic language? What do students, who are systematically marginalized, feel about their position in linguistic power structures? How do students react when they perceive a language to be oppressive? How does language tell a story of identity? Where do stories of identity and stories of systematic exclusions from power intersect? These questions formed the basis of my qualitative research project that took place in Chintsa, South Africa during the South African Study Abroad Program, Summer 2015.

Drawing inspiration from literature related to problems facing potential South African college-goers (i.e. CITE), I developed a semi-structured interview protocol that
focused on participants’ views and beliefs around the purpose of language and language instruction in their personal and educational lives. Altogether, I collected interview data from nine individuals in various stages of achieving or working towards post-secondary education. Narrative analysis methodology (Clandinin, 2013; Creswell, 2007) was used to uncover the constructed nature of participants’ reality and better understand how individual stories are constructed representations of subjective realities (Smagorinsky, 2001). Social discourse theory provided a framework for analyzing the participants’ ideologies surrounding linguistic status (Fairclough, 2013; Prinsloo & Janks, 2002). Participants’ stories both reflected their role in their discourse community and their perceptions of their social position and the linguistic and economic power that afford them (Fairclough, 2013; Gee, 2013; Fairclough, Graham, Lemke, & Wodak, 2004; van Dijk, 2006).

Emerging themes include: educational hopes challenged by systemic challenges, language learning and language oppression, and identity shaped by place and language. These emerging themes suggest the importance of social forces impacting secondary and tertiary education in South Africa and potentially around the globe. Implications from this study will give insight into how language, place, and identity are inextricably intertwined elements in the lives of these South Africans and provide a model of discourse that highlights the relationship between dominate language ideologies and post-secondary education.
Biopsychosocial Factors of Positivity and Resilience in Adult Cancer Patients Currently Undergoing Treatment  
Kaitlin Puckett, Social Work, Abilene Christian University

Every year an estimated 1,665,540 people in the United States learn they have cancer. In 2011, there were an estimated 13,397,159 people living with all cancer sites in the United States, with death rates falling on average 1.5% each year over 2002-2011. (National Cancer Institute, 2011) Given these statistics, it is evident that cancer has established itself as one of the most common chronic or serious illnesses in the United States today. (Centers for Disease Control and Prevention, 2013) With an evidently rapidly rising number of adults with these diseases it is imperative that resiliency during the treatment is thoroughly explored.

Due to the rise in these numbers, recent years have seen a shift from focus on adult cancer resiliency during the course of treatment to the resiliency of cancer patients while they are still receiving aggressive treatment. As well as this shift in age, there have been significant advances in medicine that have increased the rate of survival for cancer patients. As a result, palliative care programs have been created and have begun to thrive in the health care setting. These programs provide pain and symptom management as well as emotional support for patient, including a large portion of cancer patients, while they are still receiving aggressive treatment. (National Hospice and Palliative Care Organization) Even with the addition and growth of these programs, an overwhelming amount of research in cancer resiliency identifies resiliency factors appearing after the patient is finished with treatments. With these drastic advances in cancer treatment and survival, there is a need for research to shift from simply examining how cancer is dealt
with as a fatal disease to the attitudes and factors of resilience that exist in those living with cancer and undergoing treatment.

The purpose of this project is to explore the concept of emotional resiliency as it relates to adults with cancer in the midst of treatment. Due to the lack of literature that currently exists on this subject, this study aims to begin the process of establishing a plan for future inquiry. Based on the question, “What are the biopsychosocial factors associated with emotional resilience in adults currently undergoing cancer treatment who are involved in a palliative care program,” the study aims to establish an initial knowledgebase about common factors that point to resilience in adults undergoing treatment for cancer, point to future studies based on the knowledge gained, and establish initial guidelines for social work practice for those working with adult cancer patients, primarily in palliative care or medical settings to increase resiliency.

Increasing change in the ways that cancer is viewed and treated provides a new framework for the development of resiliency in current cancer patients. Rather than focusing on the negative impacts of cancer on the patients, new research has called for increasing attention to resiliency and positive impacts of cancer. A greater understanding of factors surrounding cancer patient’s positivity and resilience (while the patient is currently undergoing treatments for cancer) could lead to more widespread attempts to increase patient and family resiliency and overall patient well-being. This has the potential to positively impact the patient while they are undergoing treatment as well as creates the opportunity for increased resiliency after treatments end.
Does the Density of Males Influence Sexual Segregation in Roosevelt Elk?
Leah M. Peterson & Floyd W. Weckerly, Biology, Texas State University

Problem or research question: Sexual segregation in ungulates, or the differential use of space by males and females, is hypothesized to be a function of body size dimorphism and concomitant to resource partitioning. The phenomenon is often considered to be density-dependent, however correlations between sexual segregation and changes in density could be more linked to abundance of the socially dominant sex rather than total population abundance. For most gregarious ungulate species, males are the socially dominant sex. We hypothesized that greater male abundances will promote sexual segregation since the male group sizes will be larger and more likely to be avoided by female groups.

Methodology: A population of Roosevelt elk (*Cervus elaphus roosevelti*) was surveyed over 18 years in Redwood National and State Parks, Humboldt County, California, USA to assess the extent of sexual segregation and analyze its associations to varying population abundance and male group size.

Results and impact: The occurrence of sexual segregation was correlated to male group size but not with total population abundance, and male group size was positively related to male abundance. This study therefore suggests that influences of sexual segregation involve a social component in addition to body size dimorphism and the related resource partitioning, which provides a more thorough explanation of how male and female ungulates associate with each other.
The following essay “The carnavalesque en El Amante Bilingüe (The Bilingual Lover) by Juan Marsé analyzes the presence of the carnavalesque in the novel through its main character Joan Marés who 10 years after his wife abandoned him takes on the identity of Juan Faneca in order to win back his ex-wife Norma. This metamorphosis from Joan Marés to Juan Faneca is an example of not only to assume another identity but it is an example of the carnavalesque, a theme that is developed throughout the novel. First I explain what is the carnavalesque based on the work of Mikhail Bakthin, a literary critic who wrote about the presence of the carnival-like presence in literature. Carnaval is a festival that is medieval in origin that served as a way to celebrate and enjoy oneself before Lent. It is also known for its participants to dress up in costume, to be someone else behind a mask, which is a means of rebellion against the structure and seriousness of everyday life. Then, I analyze how the carnavalesque is applied in this novel with the support of critical articles. For example, Andrew Deiser’s article Competing social values in Juan Marsé’s El Amante Bilingüe through the linguistic backdrop of Barcelona, where the novel takes place that has the presence of the Catalan and Castilian languages and cultures which represent the dual identities of Marés/Faneca. Marés being Catalan and Faneca being Castilian. This essay elaborates on the linguistic and cultural significance of these identities which make Barcelona a truly carnavalesque city with a linguistic and cultural schizophrenia.
Student Perceptions of Teacher Power and the Relationship with Engagement and Social Presence
Joseph Provencher, Media and Communication, & Adam Testerman, Communication Studies, Texas Tech University

Studies have explored the impact of perceptions of power on classroom in several contexts. Often these studies have measured power in the context of student perception; they have understood power as something that can impact how a student may feel about a class or teacher. We administered a survey to undergraduate students using the Schrodt (2007) perceived power measure to assess the impact of power on social presence and student engagement. This paper adds to the field of literature by assessing the impact perceptions of power have on tangible classroom interactions. Educators who value participation as a component of their teaching philosophy will want to demonstrate prosocial power as much as possible. Educators who want to maximize the amount of social presence their students experience should be concerned with the way they demonstrate power in the classroom. Prosocial perceptions of power have a greater impact on social presence than antisocial power. From the standpoint of critical pedagogy, classrooms function effectively when students are active participants and are able to participate in the learning experience with the teacher, as opposed to as a subject of the teacher. Our findings suggest perception of prosocial power has a significant and positive relationship with student engagement $r(86) = 0.400, p < .01$ (1-tailed), explaining 16% of the variance in student engagement. Our findings also establish a significant and positive relationship between perception of prosocial power and social presence in face-to-face communication $r(86) = 0.429, p < .01$ (2-tailed), which explained 18% of the variance in face-to-face social presence. Our findings suggest
teachers play an active role in shaping how students interact with the classroom experience.
Is Scholarship Advancing?: An Analysis of Thirteen Years of Framing Research
Joseph Provencher, Mass Communication, Texas Tech University

Problem: In 2011, Porismita Borah published “Conceptual Issues in Framing Theory: A Systematic Examination of a Decade’s Literature” to shed light on the status of framing research, and attempt to answer several scholars’ criticisms of framing research practices (Carragee and Roefs 2004, D’Angelo, 2002, Entman, 1993). Borah argues that framing research has several areas of necessary improvement, and her prescription is for future research to be able to examine specific framing issues or effects, but also be able to connect with broader understandings of framing.

This study is a content analysis of framing research, conducted between the year 2000 and 2013, and seeks to examine the current state of framing literature, and whether or not scholarship is advancing optimally. Over 8,000 articles were collected from prominent social science journals. A random sample was pulled of 375 articles, and a team was put together and coded for some basic information. The hope is to examine partially if Borah’s concerns remain relevant to current framing research. Additionally, the current study seeks to expand the questions asked of framing research in multiple ways.

While most results were not significant, this paper is an account of framing as a theory, broadly. Borah’s role in attempting to measure the state of framing research is explained, and then I show how research can be expanded in several areas to be more inclusive. Then, new avenues of inquiry will be opened, particularly in regard to power, and social relationships, to delve deeper into whether or not framing research can be improved in terms of accuracy and efficacy.
References


Video Game Character Design and Affects on User Relationships  
Jonathan Riedel, Mass Communication, Texas State University

Problem or research question:
As video games progress in terms of computing power, in-game characters evolve also. Characters portray more graphic detail than they have in the past. As the era of the Sony PlayStation 4 system (PS4) and the Microsoft Xbox One system begins, there could be a new level of empathy shared between a video game user and the in-game characters they control. By exploring this connection using uses and gratifications theory this research will attempt to see how or if gratifications are met through the controllable character’s design and why participants played and used these games. This research attempts to answer the following question: How does the design of controllable characters in video game programs affect the relationship with the user?

Methodology or approach:
The researcher will conduct a survey consisting of multiple-choice questions aimed to uncover how video game players feel about the way their controllable character looks. Surveys will be distributed to students enrolled at a large southwest Texas university.

Results or preliminary results and their impact on the field:
Projected results are that the in-game controllable character’s design will have an affect on the user. It’s predicted that the design of controlled characters won’t have such a strong affect that the user quits playing the game. But it may have an affect that raises or lowers levels of enjoyment and empathy depending on how much a participant relates to a character. As video games rise in quality and ways of interactivity, they make their way into more homes and the hands of more users. Understanding how a user is affected by characters they control in video games may lead to recognizing connections in learning, violent activity and social interaction outside of game play.
Inducing Environmental Biofilm Detachment  
Sara Robertson & Bob McLean, Biology, Texas State University

If you have ever encountered a slimy rock at a waters edge or a film in a bathtub you’ve more than likely encountered a biofilm. A biofilm is any group of microorganisms in which cells stick to each other on a surface. This protective layer, formed by bacteria, can be held responsible for antibiotic resistance, medical device infections, biofouling, problems in food processing, agriculture, and many other industries. Current treatment for these nuisance biofilms is the use of harsh antibiotics and biocides. As antibiotic resistance continues to grow alternative methods must be explored to treat biofilms. Although antimicrobial materials are being developed this doesn’t solve the issue as to what to do once a resistant biofilm is formed.

Research Question

Can boric acid serve as an alternative source for biofilm treatment and removal? The purpose of this research is to utilize alternative methods of treatment for biofilms by inducing a layer detachment. This experiment found that treating environmental biofilms, found naturally in a river, with a trace amount of boric acid induces biofilm dispersion.

Methodology

Biofilms found on rocks in the San Marcos River were treated with known concentration of boric acid and then sonicated to remove any remaining biofilms to compare percent removal of total biofilm mass.

Results

Results show up to 80% removal of biofilms. Implications of this new discovery could show that using boric acid could serve as an alternative treatment to harsh drugs and chemicals harmful to humans and the environment. Application could span multi industries and even slow the growth of a reoccurring biofilms.
There are many Second Language Acquisition (SLA) theories that tried to explain the process of learning a Second Language (L2). Many textbooks in the United States base their teaching methodologies, direct or indirectly, on these theories, specifically, the “Monitor Model” and the “Associative Cognitive CREED Theory.” The Monitor Model argues that “acquisition” and “learning” are different concepts meaning that one is a subconscious process and the other one conscious. On the other hand, the Associative Theory does not make a difference between these two concepts. This theory states that the same learning process occurs through both the acquisition of a language and the acquisition of general knowledge. The textbooks that are specialized in the acquisition of Spanish as L2 are based on constructions that do not necessarily contribute to the knowledge of how a L2 is learned. The purpose of this paper is to explore if the descriptive grammar, specifically, the morphology and syntax that appears in textbooks, is required for the acquisition of Spanish as L2 and what kind of grammatical knowledge is required, if applicable, in the process of learning a L2. Also, the pedagogical aftermath of the mentioned theories will be analyzed in terms of the learning process. The approach used to explore and analyze these concepts was a comparison of two textbooks used in a variety of American universities and a professor’s manual used in México to teach indigenous people Spanish as L2. Finding parallels between these textbooks will help to determine to what point their methodologies promote or interfere in the acquisition of Spanish as a L2. Neither the textbooks nor the manual claim that the student is going to produce the language; however, they do claim that the student will have a deep
understanding of the Spanish grammar. The focus of SLA theories is to explain the “how” but not the “what,” in other words, they want to explain how we acquire language, but not what grammar is required in order to acquire the target language. The results of analyzing the textbooks show that the grammar is presented improperly which has an affect not only with written language skills but with oral language skills as well.
Harmony and Nature: Exploring the significance of harmony between the mind and the natural state of affairs
Stefan Sanchez, Philosophy, Texas State University

Problem or research question:
The problem to be addressed is reconciliation between the mind/psyche and “nature,” which in this case may be seen as that which is outside of the individual, but that the individual exists within and, on a larger scale, that which is outside of humanity, but that humanity exists within.

Methodology or approach:
My methodology is primarily one of textual analysis, using three formulations of what makes the state of affairs (Nature denoted with a capital N) tick, taken from separate areas of the world (and human history). These three formulations are the Tao of the Taoist philosophical framework, Logos as formulated in the Stoic philosophical framework, and the force of Wyrd, referenced in ancient Norse cosmology. These three frameworks have been chosen due to their emphasis on the human psyche and its relevance in one’s interactions with the world around the individual. Throughout the paper I draw parallels between the three frameworks in an attempt to build a sort of sliding scale of harmoniousness, and try to suss out the benefit and method of achieving greater harmony between the mind and “the order of Nature.”

Results or preliminary results and their impact on the field
The three formulations of the order of Nature, and the methods of achieving harmoniousness with them do not exclude each other absolutely. It would seem that there are multiple angles from which to attack the issue of reconciling the mind and the state of affairs, and that doing so provides a psychological benefit if nothing else.
How Visual Cues in Advertisements Affect The Lesbian, Gay, Bi-Sexual, and Transgender (LGBT) Community
Mackenzie Sawyer, Tasha Hendershot, & Shala Nettles, Communication and Information, Florida State University

Problem/Research Question
From a marketing perspective, it is hard to deny that the LGBT community is an essential cultural group that holds substantial buying power. The problem is that marketers, even those who have attempted to target the LGBT community through advertising, have failed to recognize the distinct differences between the LGBT cultural group itself, i.e. lesbians, gay males, bisexuals, and transgender. The purpose of this study is to answer two main questions: First, what visual cues do LGBT people tend to prefer? Second, what kinds of LGBT themed ads are more likely to be accepted by heterosexual consumers?

Methodology
Our method for conducting this research was an online survey. The survey was distributed via email and through the social media platform, Facebook. Our population of interest for this study was both LGBT and heterosexual individuals, as results from each group were relevant for testing our hypotheses. Respondents were recruited using a non-probability sample and were prompted to complete the anonymous survey at their leisure. Our survey contained a set of three advertisements that were pre-tested for inter-judge reliability.

Preliminary Results
Our preliminary results showed that overall, LGBT respondents had more positive attitudes toward ads with explicit LGBT visual cues than ads with heterosexual visual cues. We had hypothesized that heterosexual females would have more favorable attitudes toward ads with explicit gay imagery than heterosexual males, but our data was not able to support this. We also hypothesized that compared with heterosexual respondents, LGBT respondents would have more favorable attitudes toward ads with explicit LGBT visual cues, but this was also not supported by this preliminary data. Based on our data and findings, marketers could use explicit gay-male or lesbian advertisements in mainstream advertising without alienating heterosexual consumers. Through mean comparison we found that the most “favored” ad across all groups - lesbian, gay-male, transgender, bisexual, and heterosexual - was the ad featuring explicit lesbian imagery. Our data also showed that the age group 18-24 held the most favorable attitudes toward the ads.

Overall, our data would have benefitted from a larger sample size. However, it can be concluded that LGBT respondents’ attitudes toward visual advertisements differ from the attitudes of heterosexual respondents. It can even be said that there are attitudinal differences within the segments of the LGBT community. We are currently working on furthering our research on this topic.
The Subject is the Matter: Towards a More Inclusive Understanding of Hybrid Racial Identity in Technical Communication
Amanda Scott, English, Texas State University

Problem and Research Question(s)

On June 11, 2015, the Pew Research Center released its first comprehensive report on multiracial Americans based on results from the 2010 U.S. Census. According to the report, the multiracial community is “growing at a rate three times as fast as the population as a whole,” which makes this study especially timely (pewsocialtrends.org). For single-raced individuals, this information may not be as pertinent, as filling out a census form—or any document requesting racial or ethnic information—is much easier for them, in most cases. Multiethnic and multiracial individuals, however, may experience more difficulty completing these forms due to conflicts between personal identity and society’s common racial paradigm.

Formative research has already been done on the census both within and outside the field of technical communication, which I wish to apply toward a specific case study and target audience: the ApplyTexas college application form with a focus on mixed White/Mexican students. I have chosen to focus on these specific individuals because they account for a large percentage of interracial individuals in Texas; moreover, the Latin@ community in general is one that has traditionally faced great difficulty in defining race and ethnicity due to various social, political, and economic factors. Accordingly, my study is motivated by the following questions.

Main Research Question

- To what extent should technical communicators consider race, ethnicity, and their nuances when creating documentation and other media, especially as they pertain to mixed individuals?

Secondary Research Questions

- What specific concerns do mixed White/Mexican individuals have when completing forms about race and ethnicity?
- If appropriate, how can documentation be enhanced to address hybrid racial and ethnic identities, and even, generate inclusivity?

Theoretical Framework and Methodology

Critical Race Theory (CRT) and its subsidiary, Latina/o Critical Theory (LCT), will serve as theoretical frameworks for examining the rhetorical and social implications of the ApplyTexas application. Furthermore, because I am interested in both individualized and collective conceptions of Mexican/White hybrid identity, I will conduct focus groups and private interviews with selected participants. Focus groups will allow me to study the dynamics of collective
identity and the ways group discussion influences self-identification, both as performativity of race and ethnicity in daily life and in formal modes of identification. Similarly, private interviews will allow me to assess the personal views of mixed individuals with minimal outside influence.

**Results and Implications**

The U.S. Census and the ApplyTexas college application form not only reflect the cultural attitudes of the general public, but also those of the institutions and individuals who create them. Thus, through careful research and evaluation, I believe we will find a need for 1) a reevaluation and reformation of application and data collection forms with questions regarding race and ethnicity, and 2) possible strategies for improving these types of documents so that we may become more racially and ethnically aware, and therefore produce more socially responsible documentation that legitimizes mixed individuals and helps them better understand the purpose of the data being collected. Consequently, I believe this research will contribute value to an already growing area of race and ethnic-focused technical communication studies, especially as it concerns hybrid identities.
Instagram Use in NCAA-Division I College Athletics: How Personal Accounts Can Promote Women’s Sports
Charlotte Singleton, Mass Communication, Texas State University

Problem or research question:
In order to better understand how the picture-sharing social media site Instagram can help promote and market women’s sports in NCAA-Division I sanctioned athletic programs, this research will focus on a large southwest Texas university softball team and their Instagram activity. Instagram is an online mobile photo-sharing, video-sharing and social networking service that enables users to take and share pictures and videos on a variety of social networking platforms. This research attempts to answer two questions: Does the university’s softball team personal Instagram account better promote and cover the team versus the university’s official athletic program Instagram account? Does implementing the women’s softball team personal Instagram accounts help publicize the sport and does it gain as much attention and social media presence as the university’s “main-money sports” like football and men’s basketball?

Methodology or approach:
This research will measure the difference in social media presence between two entities: the university’s athletic department Instagram site, and the university women’s softball team Instagram site. This study will measure and analyze three weeks of Instagram posts from the two different accounts during the past year’s softball season, which will help me gain accurate and thorough statistics on the topic since all games are final and statistics are already concrete. I will measure the difference in social media posts (by number) and analyze post content by implementing a content analysis to observe the differences and similarities between the two Instagram sites.

Results or preliminary results and their impact on the field:
Because the athletic department has to cover all university sports, presumably equally, I hypothesize that the separate softball team’s Instagram account will generate more buzz, popularity and social media presence; therefore reaching more fans and getting more people in to attend games.
Testing the Applicability of Walker (2008) Cranial Nonmetric Sexing Traits on Undocumented Border Crossers Along the South Texas border
Cassie Skipper, Brittany S. McClain, Marilyn Isaacks, Daniel Wescott, Anthropology, Texas State University

The increase in undocumented border crosser deaths in the harsh environments along the South Texas border has created a present humanitarian disaster in which forensic anthropologists are needed to help identify these individuals from their skeletal remains. The problem is especially acute in Brooks County, Texas, where remote ranchland is abundant. The open land makes it easier for migrants to cross the Texas-Mexico border; however, migration in this area is perilous due to weather conditions. Project Operation Identification (OpID) was created at Texas State University in response to the increasing border crosser fatalities. OpID addresses this humanitarian disaster and serves to identify and repatriate the skeletal remains of undocumented border crossers who died crossing the South Texas border. The unforgiving Texas environment can lead to poor skeletal preservation and limit the recovery of skeletal elements. Therefore, OpID utilizes all available skeletal material to create a biological profile. When pelvic skeletal elements are not present to estimate sex, the cranium is used as an alternative and analyzed using the Walker (2008) nonmetric sexing method, which is based on scoring visually assessed cranial traits. This method has traditionally been used on all populations when no other appropriate technique is available for the specific population. It is currently unknown whether Hispanic populations exhibit the full range of cranial morphological variation assumed in the Walker (2008) cranial nonmetric scoring system. The current research serves to test the applicability of this method to a Hispanic sample and to discern if these individuals express the expected full range of variation.

Twenty-one crania were seriated and scored for nuchal crest, mastoid process, supra-orbital margin, and glabella. Because one individual was missing a mandible only 20 crania were scored for mental eminence. The results for each trait were analyzed using a logistic regression equation provided by Mercyhurst University to estimate sex followed by chi-square goodness of fit and Cramer’s V (0.584, p-value = .02). The chi-square results of this preliminary study show the estimated sex of the OpID individuals based on pelvic morphology is significantly different from the sex estimated using the Walker (2008) method ($X^2 = 7.853$, df = 2, p-value = .02). However, there was a strong correlation between sex and the traits scored (Cramer’s V=0.584, p-value=0.02). Further, the Hispanic sample tested here did not exhibit the full range of variation for nuchal crest, supra-orbital margin, and mental eminence described in the Walker article.

While the Walker method can be used to estimate sex when only crania are present, researchers should express caution when using this method until the scores are shifted to more accurately represent the Hispanic population. To sex the crania of Hispanic individuals, a more appropriate method should be employed to account for the range of variation exhibited by Hispanic crania. The present research will aid in this humanitarian effort to identify and repatriate these individuals by acknowledging the necessity for population-specific techniques and to make other researchers aware of the potential issues when solely using crania for sex estimation.
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Visual Iconography in Social Media: Factors Influencing Voter Candidate Selection
Nathaniel Smith, Mass Communication, Texas State University

The study “Social media’s visual communication impact on the 2016 presidential race” examines factors in visual communication and iconography on social media pages that influence voters to select one candidate over another. The factors are identified and reported on through surveys of self-assessments of voters in the 18-to-29 year-old demographic in Hays County, Texas, who will be eligible to vote in the 2016 presidential election. The population surveyed was selected through a convenience sample gathered in the fall of 2015, approximately one year before ballots are to be cast in the 2016 race.

First, the literature review examines existing research into visual communication factors and iconography presented through visual media in past races and how communication scholars have analyzed their impacts on previous races. Then the research discusses what is lacking in that research and what can be applied to visual communication theory in social media. Finally, the research presents its own findings in factors influencing voters’ decision-making processes in the modern digital environment. This research has the potential for shaping the ways campaign managers shape their strategies going forward, which may increase voter participation and lead to more competent and more popular politicians being elected into office.
Can Energy Efficiency Save Energy?: An Economy-Wide Rebound Effect Simulation for Turkey  
Tuğba Somuncu and Christopher Hannum, Economics, Istanbul Technical University

Research Question:

Energy efficiency is often considered as one of the most important tools for reducing use of energy resources. However in the literature there is an ongoing debate about certain offsetting impacts. These offsetting impacts are called rebound effects. According to economic theory, an increase in energy efficiency will ensure a reduction in per unit price of energy services. A price reduction will stimulate energy demand from consumers and firms and eventually will lead to a higher energy consumption level. In addition, an energy price reduction may also lead changes in demand for other goods. While the first effect is called a direct rebound, the second one is called an indirect rebound effect. In this paper we examine economy-wide rebound effects for Turkey which consist of the sum of direct and indirect effects.

Turkey, as an energy importing country, wants to reduce energy consumption while maintaining economic growth. There are several policies that aim to promote energy efficiency. However the big question remains whether, obtaining higher levels of energy efficiency will result in a lower energy consumption level or not.

Methodology:

We constructed an energy-economy computable general equilibrium (CGE) model for Turkey by creating a social accounting matrix (SAM) based on the 2002 Turkey Input-Output table from Turkish Statistical Institute (TÜİK). We use nested constant elasticity of substitution (CES) structure for production and household utility in which energy and capital are perfect complements and the energy-capital composite substitutes for labor and other intermediate goods with a Cobb-Douglas form. Industrial good and energy are treated as perfect complements. We define the rebound effect as percentage increase in total energy consumption over the expected reduced (energy) consumption level.

We separately introduce two energy efficiency policies which are being implemented in Turkey into our model. The first is energy certification for buildings which demonstrates their energy consumption level and groups them into 7 categories as A, B, C, D, E, F, or G. In accordance with this law newly constructed buildings must meet at least C level in order to qualify for building permit. We assume all existing buildings will be improved to C level from G while all new buildings will be in the C category. The second policy is mandatory energy labeling for household appliances, is functionally similar to energy certification for buildings. We assume energy efficiency for appliances increases due to the policy with the same percentage increase as has been observed over the 10 years since the initial formulation of the policy.
Preliminary Results:

Simulations for the first scenario show rebound effect which ranges between 20-25%. Approximately the same percentage is observed for the second scenario. These results indicate that approximately 20 percent of energy savings due to improvements in the energy efficiency are lost due to the rebound effect. Since the size of the rebound is great enough to be non-negligible, any policy, forecast or action which does not take it into consideration will be inadequate.
Event-related Potential Examination of the Mere Exposure Effect
Katelyn Stephenson, Katherine Mooney, Andrew Santana, & Rebecca Deason,
Psychology, Texas State University

The mere exposure effect, the tendency to like items that have been previously encountered more than new items, has been classified most often as a type of implicit memory, but has also been differentiated from priming in behavioral studies.

In this study, we examined the neural correlates of the mere exposure effect to gain further insight into this type of memory and to directly compare it with explicit and implicit memory tasks. Participants encoded unfamiliar visual objects and then completed an implicit priming test, an explicit recognition test, and a mere exposure test. Along with behavioral data, we collected event-related potentials while participants performed these tasks.

To compare the different types of memory, we contrasted the ERP correlates of the three memory tests. This comparison allows us to further explore how the mere exposure effect fits into memory classifications.
Does Ethnicity Matter? Examining the Relation between Ethnic Identity and Connection Among Young Adolescents
Amber Swalley, Melissa Delgado, Norma Perez-Brena, & Edna Alfaro, Family and Consumer Sciences, Texas State University

Research Question
As the youngest and largest ethnic minority group in the US (Pew Hispanic Center, 2009), Latino youth matter for their communities and society at large. As a result, it is important to understand what factors contribute to their positive development. To do this, we examined predictors to youths’ sense of connection to their environment (e.g., peers), a factor related to various indicators of Latino psychosocial adjustment (Delgado et al., 2015).

For Latino youth, in particular, feeling connected to others might be salient due to the social disadvantages these youth might experience (e.g., discrimination; DeGarmo & Martinez Jr., 2006). Thus, a better understanding of how connectedness is fostered is warranted. We know that relationships (e.g., peer and family) are related to one’s feelings of connection (Delgado et al., 2015), but we know little on the individual processes involved in predicting connectedness to others. Social identity theory (Tajfel, 1981) posits that feelings of connectedness to one’s group, and self-esteem are related. As such, how one feels about oneself might relate to individuals’ openness to connect with others, particularly given that those with high ethnic identity already feel a sense of belonging to their ethnic group. Drawing on social identity theory, we examined how an individual’s perceptions of self, namely ethnic identity, related to a sense of connection among Latino and non-Latino youth (Figure 1). Specifically, we hypothesized positive relations between ethnic identity (i.e., public and private regard) and youths’ sense of connection to their environment for Latino youth. For non-Latino youth, we hypothesized that this relation would not be significant.

Methodology
Participants were 445 sixth grade students from a middle school in central Texas (54% female; Mage = 11.66 years, SD = .63). Of those 445 students, 280 self-identified as Latino. During self-administered questionnaires, adolescents reported on demographics, ethnic identity (Yip et al., 2006), i.e., private regard (i.e., youths’ personal beliefs about their ethnicity) and public regard (i.e., the perception of what others think about youths’ ethnicity), and connection (Geldhof et al., 2014).

Preliminary Results
Preliminary regression analyses only include the direct relation between ethnic identity-public regard and connection (β = .08, p = .088) and ethnic identity-private regard and connection (β = .08, p = .109) for the Latino group. The full model will test the relation between ethnic identity-public regard and connection and ethnic identity-private regard for non-Latino youth, and will include tests of moderation by ethnicity.

Implications for future research on ethnic identity and connection are discussed. Results from this study may be informative for creating interventions for this population.
Figure 1. Conceptual model.
Study of the Crystal Properties of Iron Doped NiO Using an X-ray Diffractometer
MD Abdul Ahad Talukder, Yubo Cui, & Wilhelmus J. Geerts, Physics, Texas State University

Problem Description:
Due to scalability in the Non Volatile Memory world the most promising emerging technology to replace flash memory beyond the 14 nm node is ReRAM. A ReRAM memory element is a two terminal resistive switching device made of metal oxide in between electrodes. The resistance of the oxide can be reversible switched between a low and high resistance state by an applied voltage. Transition Metal Oxides, in particularly NiO, are becoming more of an interest and have been studied extensively. The introduction of iron in the NiO allows to modify the crystal structure and morphology and optimize the switching properties improving rewritability of the ReRAM devices.

Methodology:
We investigated the morphology, crystal size, film thickness, and strain of Ni$_x$Fe$_{\text{1-x}}$O thin films using X-ray diffraction. Iron doped NiO is a polycrystalline material. The films were sputtered on glass and quartz microscope slides by RF-magnetron sputtering. Films with two different iron concentrations were investigated, i.e. 10% & 20%. Furthermore we investigated the effect of the oxygen flow during deposition has on the crystallinity of the samples. Films were made using the following Oxygen gas concentrations: 5%, 7%, 10%, 14% and 20%. The 2Ɵ-ω scan were measured with a Bede D1 system set to powder mode (instrumental peak width is 0.03 degrees). The parameters for the Cu X-ray source were $V_{\text{acc}}=45$ kVolt, $I_{\text{beam}}=35$ mA. The X-ray spectra were measured with a 0.05 degrees step size and a 100s count time from 35-45 degrees. Clear peaks were visible around 37$^\circ$ and 43$^\circ$ of the corresponding (111) and (200) planes respectively. For all films the dominant reflection was the (200) peak. The background signal was first subtracted from the measured data. After that the peak’s positions, widths, and heights, were determined by fitting the measurement data using Pseudo-Voigt peak shapes and a Chi-squared fitting method.

Results:
For 20% iron doped NiO the intensity of the (111) peak increases and the (200) peak decreases with the oxygen concentration in the sputter gas. For both peaks the peak width increases with oxygen concentration: the (200) peak being the widest peak for all oxygen flow rates. An increased width could be due to smaller crystallites or more micro-strain. An attempt to separate crystal size and micro-strain using a Williamson-Hall plot was not successful as the intercept with the y-axis is negative for all oxygen flow rates. For the 10% iron doped NiO the (111) peak is significantly smaller compared to the (200) peak.
and almost independent of the oxygen concentration. The peak width of the (111) peak is larger than the peak width of the (200) peak.

**Future Plan:**

We are currently exploring if a larger $2\Theta$-ω scan range would enable us to separate the effect of crystal size and micro-strain or if Raman spectroscopy could provide information on the micro-strain.
Death of a Salesman and the Mentally Unstable Willy Loman
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In Death of a Salesman (1949) Arthur Miller creates his main character, Willy Lowman, as a modern tragic hero. As Lawrence Rosinger explains in his article about the play, Miller felt that “the tragedies of our time can revolve about an ordinary person,” and Willy Lowman comes to represent that ordinary person. But, within the context of the play, there are signs that Willy Lowman is more than just your ordinary person. Rather, there are signs that Lowman suffers from mental illnesses that might affect his interactions and be the true drive behind his actions. Director Robert Falls consulted psychiatrists during his 1999 revival of the show, and under their analysis Willy Lowman “was manic-depressive, with hallucinatory aspects” (New York Times “Get that Man Some Prozac”). That line of thinking opens up exploration into the other internal aspects of Willy’s character. Leah Hadomi highlights that the play was once titled “Inside His Head” and that it draws on the internal tensions within Willy in her analysis “Fantasy and Reality: Dramatic Rhythm in Death of a Salesman.” This internal tension comes from the fact that Willy is mentally unstable and that instability isn’t being properly addressed throughout the play. The script points to symptoms of bipolar disorder, commonly known as manic depressive disorder, hallucinations that are symptom of schizophrenia, all triggered by a slow decline as a result of post-traumatic stress disorder. Slowly, Willy starts to unravel and the play splits into sections of past visions and self-created conversations with Willy’s dead brother, Ben. All this, placed against the concept presented in the original title “Inside His Head,” demonstrates that Willy is much more than just a template for the modern tragic hero. It points to a character who has problems deeply rooted in a psychologically ill mind and that is motivated by complications from those illnesses.
New Geometric Figure: A Perfect Astroid
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Geometry has been playing an important role for spatial understanding of our inherently geometric universe. Strong understanding of concepts and language of geometry helps to better deal with a variety of topics in mathematics and physics. And yet, given that the shape of space can influence chemical or physical properties, geometry is utilized to interpret certain phenomena or establish some mathematical equations describing the working of nature.

The study consisted of showing the existence of a new astroidal figure whose characteristics are different from those of known figures. A Perfect Astroid or a CS-Type Astroid is a figure which can result from folding without tear a circle on a square concentric to it such that the distance between any two opposite points of the folded circle is minimal and equidistant from the center. Also it can be obtained by constructing inside the square symmetric images of each point on the circumference of circle with respect to the boundary of a square. The same figure can be obtained by rotation of points of the circumference of a circle around each neighboring side of a square. All the above transformations are done with a circle of surface area $S_2$ being concentric to a square of surface area $S_1$ with minimum points of contact ($S_1 < S_2$).

Assuming that the square $S$, has a side of length $\Gamma$, this means that its surface area is, $S_1 = \Gamma^2$, and the circle $C$, has a radius of length $\rho$, this means that its surface is, $S_2 = \pi \rho^2$, calculations with two types of methods lead to the same result that the surface area of a CS-Type astroid is equal to, $\Phi_s = (4 - \pi)\rho^2$, and its circumference (perimeter) is equal to, $\Phi_p = 2\pi \rho$, because the magnitude of length or curvature of the arc is invariant under each of the above transformations. Repeating the same transformation process $n$ times results in a sequence of SC-Type astroids with a recurrence relation enabling the calculation of a surface area and a perimeter of the $n$th astroidal figure.

This new curve is particular because its surface area and perimeter are different from those of the well-known astroid which has a surface area of, $(\frac{3}{8})\pi\rho^2$, and a perimeter of, $6\rho$, where $\rho$ is the radius of a circle concentric to the astroid and passing through astroid’s furthest points to the center, this astroid is created by a circle rolling inside a circle of radius $\rho$ [1]. The main advantage is that one of the used methods to establish the formulas for the surface area and the perimeter of a CS-Type astroid does not require any knowledge of surface integrals.

References:

http://mathworld.wolfram.com/Astroid.html
Study of the Electronic Structure of Fe-doped NiO Using First-principles Calculations
Fidele Twagirayezu, Pablo D. Borges, Gabriel Leitao, Luisa Scolfaro, & Wilhelmus J. Geerts Physics, Texas State University

Recently, NiFe-Oxides have attracted great attention due to their importance in Resistive Random Accessible Memories (ReRAM), which are used in several devices applications. In this work, we studied the electronic structure of Fe-doped NiO in the rock salt structural phase; using the state-of-art first principles VASP code, based on density functional theory and the spin-local density approximation. For the exchange-correlation potential, we adopted the Generalized Gradient approximation (GGA) and the GGA+U methods, with U being the $d$-orbital related Hubbard local potential correction. For calculations involving GGA+U, U was set to 3.0 eV for both Fe and Ni, and 0.0 eV for O.

We started with the study of NiO which is known to be of rock salt type, using a 32-atom supercell consisting of 16 Ni atoms and 16 O atoms. First calculations assuming different magnetic moment distributions were performed, i.e. non-magnetic (NM), ferromagnetic (FM) and antiferromagnetic (AFM) spin orientation for the Ni lattice. The results showed that NiO is an AFM semiconductor material which is in agreement with experimental results. The calculation with the GGA method yielded a direct bandgap of 0.6 eV, while the calculation with GGA+U method yielded a direct bandgap of 2.6 eV, in better agreement with experimental findings (~ 3.7 eV).

Fe-doped NiO was obtained by replacing one Ni atom with one Fe atom and maintaining the AFM order, i.e. a rhombohedral symmetry in the [111] direction. This corresponds to an iron concentration of approximately 6.3%. The initial magnetic moment for the Iron atom was randomly chosen to be 5, but the VASP algorithm adjusted that value during the calculation. The results obtained with the GGA method showed that Fe-doped NiO has a net magnetic moment as the moment on the iron atom differs from the moment on the nickel atoms so they no longer cancel out in the AFM state. The Fermi level is in the bottom of the conduction band, which indicates the absence of a band gap, and suggests that Fe-doped NiO might be metallic. As it is well known that the density functional theory underestimates the band gaps, further improvement over the GGA approach results for NiFeO are in progress, i.e. we are currently repeating the calculation for Iron doped NiO using the GGA + U method.
Geomorphic Impact of Biota Response to Natural Disturbance
Jennifer Villa, Geography, Texas State University

Biogeomorphology is the study of how the interactions of geomorphic processes and ecology shape landforms. As defined by Heather Viles in 1988, the field can be studied from two different yet interrelated perspectives: 1. the influence of landforms/geomorphology on the distributions and development of plants, animals, and microorganisms; 2. the influence of plants, animals, and microorganisms on earth surface processes and the development of landforms. The purpose of my research is to review literature that examines how biota responds and recovers from natural disturbances; and how their recovery may or may not substantially impact geomorphological processes in the region. Geophysical events – whether it is earthquakes, mass movements, floods, fires, hurricanes, tornadoes, tsunamis, volcanic eruptions, etc… – produce an ecological disturbance effect on nature. It is the magnitude and the severity of the event that influences the level of change to the landscape and the level of recovery it must go through to regain its intrinsic mechanisms once again. These types of events as geomorphic agents play an important role in influencing the behavior of the biota in response to stress (Rice et al. 2012). Ecology and geomorphology are two fields that in more recent years have been working together to explore and document feedbacks between biotic and abiotic systems but time and space have proven to make the study of these a challenge because they do not share a simple, linear relationship. Viles et al. (2008) suggests that geomorphological processes have stabilizing impacts that leads to negative feedback from biota; and destabilizing impacts that leads to positive feedback also from biota. Taking this concept of geomorphological process as having stabilizing and destabilizing impacts and putting it together with Naylor’s (2005) biogeomorphological processes umbrella terms of bioprotection, bioerosion, and bioconstruction allows me to examine how certain geophysical events influence biogeomorphological processes; specifically, bioprotection and bioconstruction. It is important to make clear that biogeomorphological processes are not mutually exclusive (Naylor 2005) but for the purpose of meeting the objective of my research, I focus my attention on those two processes almost exclusively. I anticipate my results to reflect literature that is in fact rich in details describing how biota responds to environmental stress. This information will allow me to complete my objective of categorizing biota into one or more of the biogeomorphological processes previously listed. In addition, the use of literature obtained from academic journals that focus their research topics and interests on different fields will support the concept that biogeomorphology is an interdisciplinary field that works well with other fields of research and that these types of mutual contributions can facilitate our understanding of the natural world in which we live.
Due to the ever present drive towards improved efficiencies in solar cell technology, new and improved materials are emerging rapidly. One class of materials, organic halide perovskites, are a promising prospect with efficiencies surpassing 20%. This requires a fundamental understanding of the perovskite structures as well as an explanation for certain physical phenomena. However, explanations of certain physical phenomena, specifically a high recombination rate and low mobility of charge carriers are still controversial. One possible explanation is the formation of self trapped holes, something seen in perovskites like SrTiO3. Methylammonium lead iodide (MAPbI3) and methylammonium lead iodine doped with chlorine (MAPbI3-xClx) are the perovskites studied in this paper as they are the most promising of the organic halide perovskites. Electronic/ionic structures and polaron behavior is studied through ab initio Density Functional Theory based calculations, within the local density approximation (DFT-LDA), using the Projector-Augmented Wave method as implemented in the Vienna Ab-initio Simulation Package (VASP-PAW). Pseudocubic MAPbI3 systems are relaxed electronically and ionically using conjugate gradient algorithms over ten ionic steps and an 8x8x8 Monkhorst-Pack (MP) mesh until forces were below 0.02 eV/Å. Gaussian smearing is used with LDA PAWs and these are compared to a Hubbard (LDA+U) corrected potential in an attempt to see hole polaron behavior. The U parameter is added to take into account the interaction energy of the hole and the ionic lattice created through removing a single electron from the system. It is shown that a partially localized state is realized under the Hubbard correction, residing in the band gap. Realizing that mobility is proportional to the concavity in the dispersion relation, we conclude that this semi-localized state, due to polaron behavior contributes (at least in part) to the low carrier mobility and high recombination rate. Then, the addition of chlorine is shown to have an effect on the band structure of the MAPbI such that certain crystal directions have greater dispersion (concavity) and thus a larger mobility. It is predicted that a study of the polaron behavior in the chlorine doped molecule will show a similar localized state as the pure MAPbI molecule.
Connected: The Emotional Reward of Social Media Sharing
Mark Wilson, Candice Brusuelas, Joshua Morrison, Amy Arnold, & Ana Gallegos, Mass Communication, Texas State University

Problem

Much research has been done which seeks to explain why social media content goes viral. Examples include studies regarding the role of multimedia components, emotional contagion, and content sources in generating shares. Research conducted thus far has focused primarily on the content and source of what is shared. What researchers have devoted less attention to, however, is the actual act of sharing and its impact on individual users. As social media networks continue to expand and manufacture virality, it is critical for researchers and media professionals to understand the emotional dimension of content sharing.

Questions

This study seeks to contribute to this gap in research by answering two questions. First, to what degree are social media users emotionally connected to the content they share and the feedback it generates? Second, what factors influence the level of emotional connection social media users feel with the content they share and the feedback it generates?

Methodology

We will conduct focus group interviews with young adults between ages 18 and 30. Some topics we will discuss in our focus group include where these users encounter shareable content, what sort of content these users decide to share, what the act of sharing content means to these users, and what emotional rewards they hope to achieve through the act of sharing. The participants in this focus group will be selected from amongst the acquaintances of the researchers in the Austin and San Marcos areas. It is thus a convenience sample. We aim to provide media and marketing professionals with information about what kind of content is emotionally gratifying for users to share so that they may in turn produce content with high sharing potential and expand their reach.

Preliminary results

Initial findings gathered from a focus group conducted on Sept. 22 indicate users share content produced by others that they are passionate about, and that they endorse. Participants were interested in cultivating a social media presence that balances potentially controversial expression of convictions with preservation of amicable relationships with larger audiences. Thus, this research suggests that developers of
shareable social media content will likely be more successful in engaging audiences if they generate content which is able to function as an expression of identity and belief for the sharer without alienating audiences with who hold different and even contradictory convictions.
A Text Mining Technique for Manufacturing Supplier Classification
Peyman Yazdizadeh, Farhad Ameri, Engineering Technology, Texas State University

The web presence of manufacturing suppliers is constantly increasing and so does the volume of textual data available online that pertains to the capabilities of manufacturing suppliers. Manufacturing capability information can be used to enhance the intelligence of automated supplier discovery tools. To process this large volume of data and infer new knowledge about the capabilities of manufacturing suppliers, different text mining techniques such as association rule generation, classification, and clustering can be applied. This research work focuses on classification of manufacturing suppliers based on the textual description of their services available in their online profiles. One of the main difficulties in rapid configuration of virtual supply chains in a distributed setting, is finding the right suppliers who possess the required set of technological capabilities and competencies. The relationship between the participants of distributed supply chains, particularly at the early stages of supply chain formation, is often virtual and based on electronic and web-based interactions. This presents a challenge to effective supplier discovery and evaluation. A probabilistic technique that adopts Naïve Bayes method is adopted and implemented using R programming language. Casting and CNC machining are used as the examples classes of suppliers in this work.

Problem statement: Text mining approaches can be applied in manufacturing industries to answer questions related to the supply chain configurations and to enhance daily operational efficiencies along with improving strategic decisions. “The objective of this research work is to clarify the application of text mining techniques in real world instances of manufacturing supplier discoveries to automatically build supplier families based on the textual narratives available in their online profiles.”

Research Questions: This research work is trying to answer the following questions:
- How different text mining techniques can be applied in manufacturing domain?
- How machining learning techniques can help for supplier discoveries and classifications?
- What are drawbacks of available methods for supplier discoveries and how they can be improved?

Methodology: There are different text mining techniques which are being used based on their effectiveness on particular domain of interest. The advantage and disadvantage of each techniques need to be investigated through literature reviews. After the best method is selected, data gathering process will be dealt with. Among different industrial processes in manufacturing domain, Casting and Machining processes will be selected as examples of two different classes. Data related to these classes are gathered from websites of manufacturing suppliers and are kept as documents in a corpus. Diverse cleaning processes will be applied to the documents of the corpus to retrieve useful and technical terms. These terms are building training data model. R programming language are going to be used to design and implement a classifier application which can use these training data to automatically predict and classify content of test websites under relevant categories.
**Preliminary results**: The performance of the proposed classifier is evaluated experimentally based on the standard metrics such as precision, recall, and F-measure. It was observed that in order to improve the precision of the classification process, a larger training dataset with more relevant terms must be used.
Use of Color to Convey Emotion in *The Economist* Magazine
Qian Yu, Mass Communication, Texas State University

**Problem or research question:**
In magazine design people expect meaningful visual content. Good graphic design is able to influence a reader’s connection to the flow of information the editor is trying to deliver. Color selection is an important tool for this purpose. Research shows that color can help define a person’s emotion and affect their memory of the presented content. Our perception of color is based on multiple influential factors, such as a person’s personal experiences and their culture. The unit of analyses for this research is *The Economist* magazine. Being a business magazine many of their topics are hard for some readers to understand. The magazine uses large colorful images to connect to readers. This research will attempt to answer the following question: How affective is the color used on the cover of *The Economist* magazine in conveying emotion to a target audience?

**Methodology or approach:**
The researcher will conduct a content analysis of *The Economist* magazine covers from the previous five years. Covers will be coded to figure out which colors are used for negative topics and positive topics to show the relationship between the color and emotion.

**Results or preliminary results and their impact on the field:**
Projected results are that the use of color in the magazine will coincide with the tone and tenor of the cover story for each issue of the magazine. By identifying how color can be used to affect readers and their emotions, this research can show a relationship between color and content in graphic design.