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Abstracts are listed in alphabetical order
by first authors’ last name
Soil and Vegetative Associations of Heteromyid Rodents in Central and South Texas
Michelle Adcock, Thomas Simpson, Joseph Veech, Clay Green, & Richard Manning, Aquatic Resources, Texas State University

Research Problem:
Heteromyid rodents occur in arid and semiarid lands in western North America, and are primarily granivorous. Heteromyids often form guilds because they share a food source, and these guilds are often occur in habitats with sandy soils and vegetation that offers both open areas and dense shrub cover. Detailed habitat requirements for South Texas heteromyids are limited, and community assemblage data are important for making inferences about species occurrence patterns. In this study, we investigated soil and vegetative associations for heteromyid communities at the landscape and microhabitat scales in Central and South Texas.

Methodology or approach:
We established treatments as the unique combination of each land cover and soil type on two study sites (located in Guadalupe County and Jim Hogg County). We trapped small mammals in each representative treatment on consecutive nights for three seasons on both sites. We assessed microhabitat parameters, including herbaceous cover of grasses and forbs, bare ground, leaf litter, and densiometer readings within each treatment for all seasons on both sites. For the landscape level analyses, we conducted a chi-square goodness of fit test to determine if captures of Chaetodipus hispidus, Dipodomys compactus, and Perognathus merriami differed per treatment. We conducted simple linear regression models to determine if each microhabitat parameter was an important predictor of capture success (representing abundance) for each species for each site.

Results or preliminary results and their impact on the field:
Overall capture success for the Guadalupe County study site for all heteromyids within all seasons for 2,816 trap nights was 2.06% and overall capture success for the Jim Hogg study site for all heteromyids within all seasons for 2,646 trap nights was 19.16%. For the landscape level analyses, capture was significantly different per treatment for each species on both study sites. For the microhabitat analyses on the Jim Hogg County study site, herbaceous cover and bare ground were significant predictors of occurrence of C. hispidus with a positive trend observed for herbaceous cover (β = 0.1259, R² = 0.1516, P = 0.0276), and a negative trend observed for bare ground (β = -0.2156, R² = 0.2477, P = 0.0038). No other microhabitat parameters were deemed significant for the other species on either site. We determined that selection for or avoidance of certain land cover and soil types on the landscape scale could suggest potential habitat partitioning by heteromyid species. If a treatment was neither selected for nor avoided, then that indicates that a heteromyid species occurred as expected within that treatment, based on the overall availability of the particular land cover category and soil type. Microhabitat parameters were not important predictors of occurrence on the Guadalupe County study site, perhaps because of a homogeneous landscape, when compared with the Jim Hogg County study site, which offers more heterogeneity for heteromyid species.
**Problem or research question:**
Defining habitat for endangered and threatened species is critical for designing effective conservation policy. *Eurycea tonkawae* was listed as a federal threatened species in 2013, and its habitat consists of spring fed caves, pools, runs, and creeks fed by the northern segment of the Edwards Aquifer. Determining which portions of these surface habitats are occupied is important for designating critical habitat units and developing survey protocols. The types of structure objects *E. tonkawae* utilize as refugia and the spring segments they occupy in relation (distance) to primary spring discharge locations are particularly influential to the conservation policy of this taxon.

**Methodology or approach:**
We conducted monthly *E. tonkawae* surveys at six sites in Williamson County, Texas to evaluate structure object use and occurrence in proximity to primary spring discharge points. We systematically surveyed all available structure object types and all flowing portions of the spring runs. We sampled using visual encounter survey and detailed quadrat survey techniques. Survey data are reported as salamander observation rate (the number of salamanders observed per structure object overturned) for visual encounter surveys and as present/absent for quadrat surveys. We analyzed visual encounter survey data with an unbalanced three-factor analysis of variance and quadrat survey data with a logistic regression model. Structure object type, distance from primary spring discharge, and site were predictors in both models.

**Results or preliminary results and their impact on the field:**
We observed differences in salamander observation rate among the sampled springs and at different distances within spring runs. *E. tonkawae* indiscriminately use all available structure objects (i.e., cobble, vegetation, leaf litter, woody debris), and at some sites, routinely occur further away from primary spring discharge locations than previously reported. However, structure object availability and downstream salamander occurrences differed among sites. Further work is necessary to determine the mechanism limiting downstream distribution in these populations, but the current results can benefit survey protocol and management units if incorporated into the conservation policy for this taxon.
The Arab Uprising on U.S. Television: Issues, Frames, & Implications  
Oluseyi Adegbola & Sherice Gearhart, Media & Communication, Texas Tech University  

Problem or research question:  
Reporting of international conflict has implications for understanding, policy formation, and political action. This means media coverage can influence the outcomes of conflict. This study was guided by agenda-setting and framing theories, and investigated reporting of the Arab Spring conflicts by U.S. television networks (ABC, CBS, and NBC).  

Methodology or approach:  
The study examined the time frame between the onset of the uprising and February 29, 2012 when dictators were unseated in Tunisia, Egypt, Libya, and Yemen. The timeline of the study was selected because it captures events that occurred between the onset of the conflicts (December 17, 2010) and when the last of four deposed dictators were overthrown (February 29, 2012). Similarly, it is within this time period that the conflicts were most prominent in the news before being overtaken by other global events of similar magnitude. A census of reports was collected from the Lexis Nexis Academic Universe (N = 621) using the search term “Uprising,” and coded for dominant issues, sources used, frames, and mentions of social media.  

Results or preliminary results and their impact on the field:  
Results of the study corroborate existing research regarding conflict reporting. Coverage was mostly episodic and dominated by violence, while core causes of the uprising received only marginal coverage. Although past research has emphasized the role of social media in the uprising, evidence of this in the transcripts was limited. American’s relationship with the region was the only issue that featured more thematic than episodic frames. When American sources were used, they were mainly politicians or government officials as against the use of ordinary domestic sources from the affected region. Other findings and implications for international reporting of conflict are discussed.
Narratives of Two Community Educators: Best Practices and Challenges
Jan Adversario, Adult, Professional & Community Education, Texas State University

Problem or research question:
There is a growing and substantial demand for adult literacy classes in General Education Development (GED) and English as a Second Language (ESL). Often, these programs offered at community-based settings face operational challenges including limited funding, lack of teachers and volunteers, low salaries for educators, and long wait lists for students (Tucker, 2006). Most students on these programs are immigrants. Despite this trend and social movements towards social equity, access to literacy remains an issue for this group. More specifically, adult immigrants often get left behind in educational attainment. In most occasions, this spurs a downward spiral for them in securing suitable employment.

Using narrative analysis, this study highlights the work of adult educators delivering adult education services at a Community Learning Center (CLC). The work they do is important for community development and for a better economy. The center is located in Central Texas and provides GED preparation and ESL classes to adult learners, most of which are immigrants. Primarily, I sought to answer the following research questions: (1) What are best practices delivering adult education to adult immigrants? and (2) What are the challenges faced by these practitioners? The study builds on principles of adult education: that adult learners are motivated and self-directed, practical, goal and relevancy-oriented, they bring experience and knowledge in the classroom, and finally, they like to be respected (Knowles, 1970; 1984).

Methodology or approach:
This is a qualitative descriptive case study (Creswell, 2013; Glesne, 2016) which documents the work of two community educators. For five weeks in the summer of 2015, I took the role of a participant-observer (Creswell, 2013) and interviewed two adult educators working at CLC. Data were also collected through artifacts/photos and the researcher’s journal. I used photo elicitation to gather more in depth data from one of the participants, as she talked about her integration journey in a new community in the U.S. This practice “…enables people to identify, represent, and enhance their community through a specific photographic technique” (Wang, 1999, p.185).

The interviews were recorded, transcribed, and analyzed. I used the constant comparative method to analyze the data (Glaser, 1965).
Results or preliminary results and their impact on the field:

Four themes emerged from the data analysis: (1) genuine desire to help, (2) instilling motivation, (3) going the extra mile, and (4) facing barriers and harsh realities. For example, these teachers called students whenever they missed classes showed authenticity and care. They used different instructional strategies to keep learners engaged to continue with their classes. They went above and beyond their duties by going to their students’ homes to conduct testing when they were unable to come to class. Finally, these community educators constantly encounter challenges because of their student’ realities including fear of deportation, lack of childcare, and work-schedule conflicts. All in all, these teachers put their students at the center of their teaching and envisioned their learners as holistic human beings, which is congruent to the principles of adult learning. Study findings contribute to the body of literature that informs adult education, community education, and immigrant literacy.

References:


Science and Engineering Integrated Calculus Tasks in Calculus
Enes Akbuga, Mathematics Education, Texas State University

Problem or research question:
Calculus is crucial for students’ retention in STEM fields, hence it is worth investigating what impacts most to students’ learning in calculus. Studies have indicated that engagement is a strong predictor of student success and behavior. Students who are engaged during learning achieve better grades as compared with the less-engaged students and are less likely to drop out. Following question is investigated in this study. How science and engineering integrated calculus tasks impact students’ engagement in calculus courses?

Methodology or approach:
This study is a small-scale pilot study. In order to understand students’ engagement with science and engineering integrated calculus tasks, a specific case was selected and analyzed. A student enrolled to calculus-2 course at Texas State University volunteered to participate in the study. The participant was asked to fill out a consent form before attending the research. The IRB approval for this study is gained under the course MATH 7356B Advanced Qualitative Research at Texas State University.

Results or preliminary results and their impact on the field:
Data comes from the task-based interview and having the participant work on the Water Tower Task which is a physics problem that requires calculus knowledge. The participant was asked to perform the task, and as the participant works on it, several questions were asked to address the research question. In conclusion, the study deals with addressing students’ engagement with such calculus tasks. There was strong evidence that the task helped the participant to connect physics to calculus so that he was able to see the relationship between the ideas in both fields. This clearly shows that it was not only something interesting and enjoyable for him but also it made him feel better and added more to his experience. This implies that this kind of integration might help calculus students to engage more in the context. Furthermore, it may also contribute calculus students’ future experiences because science and engineering integration creates real world related scenarios so that they can expect what to see in the future.
Outcomes of an intensive bilingual speech and language program on the expressive language of preschoolers with Down syndrome
Melissa Alanis, Leslie Hinojosa, Cora Ocampo, Maria Resendiz, & Jason Tipps, Communication Disorders, Texas State University

Problem or research question:
Expressive language affects an individual’s ability to communicate with others and express their wants and needs. Children with Down syndrome usually experience a significant speech and language delay which causes them to rely on non-verbal skills such as gesture, eye gaze, and finger pointing much longer than other children. Children who have language delays due to a secondary diagnosis of Down syndrome may demonstrate negative behaviors- due to limited communication capabilities. This study was conducted in order to determine the outcomes of an intensive speech and language program on the expressive language of preschoolers with Down syndrome.

Methodology or approach:
Multicultural Intensive Speech Therapy Intervention Clinic, MISTIC, was implemented by Texas State CDIS bilingual faculty and graduate students over four weeks. Among the ten participants, three had a diagnosis of Down syndrome and will be the focus of this presentation. Participants were provided speech therapy services for 3 hours a day, five days a week. Two parent education sessions totaling two hours were also provided throughout the four week period. Each MISTIC session included language activities based on thematic units. For example, All About Me, Beaches and Boats, Wild Animals, and Camping. Activities focused on improving receptive and expressive language and included vocabulary development, phonological and literacy activities, music and craft activities, and snacks related to each weekly theme. Graduate clinicians implemented these sessions by use of: (1) visual supports in the form of pictures of thematic related nouns and common actions, (2) incorporation of functional signs (“more”, “gimme”, “help”, and “all done”) combined with verbal models of words, (3) establishing routines with others (peers, clinicians) that incorporated sensory preferences (e.g. movement, touch, visual) and interests, (4) consistent modeling/labeling of thematic related vocabulary, and (5) hand-over-hand assistance for following simple directions. Play-based samples were collected each week to track progress and be used for baseline and post-treatment comparisons.

Results or preliminary results and their impact on the field:
Preliminary results showed gains in overall expressive communication for the three participants who had Down syndrome (Participants A, D, and E). It was found that both verbal and signed communication to express the wants and needs of the participants showed an increase in production when comparing pre and post therapy play samples. Although the exact increases were variable from child to child, improvements in communication and behavior were observed in all three participants by all facilitating graduate student clinicians.
Does Social Media Move Diplomacy Closer to the People? A Content Analysis of Three US Embassy’s Social Media Presence across the Globe
Andrea Alvarez, Mass Communication, Texas State University

Problem or research question:
For hundreds of years countries have engaged in diplomatic relations to resolve issues and advance interests. Although global political and social systems continue to change, the relevance of diplomacy as a tool for international relations will forever be of importance. Before the arrival of new technologies such as the Internet and social media the governments sought to influence in one-way monologues, implying that the state sends a message to a foreign audience, with little feedback from the public. Most people think of diplomacy in a traditional sense. Although traditional diplomacy continues to be at the core, nowadays, the public is engaged in a two-way dialogue. With the help of Twitter it is now possible to interact with government officials and representatives, which allows them to assert themselves and the latter to interact and build relationships with the public. Alongside traditional diplomacy, the term “public diplomacy” since the 1960s has been significant in foreign affairs. For diplomats and the government public diplomacy is not just about the ability to speak to a vast audience, as important as that is, it is really about listening to the interactions and building a relationship with the public. This study will raise the following questions: RQ1: Will crisis days analyzed have a higher number of interactions; URLs, hashtags, mentions, replies, and retweets between the public and the account? RQ2: Did the US Embassy accounts interact with ambassadors and other official accounts? RQ3: Is there a correlation between the interaction by hashtags, URLs, mentions, replies and retweets in posts between @USAinUK @USEmbassy_France @USEmbassy_Turkey and the amount of accounts US Embassy follows?

Methodology or approach:
I will conduct a content analysis of @USEmbassy_Turkey, @USAinUK and @USEmbassy_France for a period of six weeks, June 10, 2016 - July 24, 2016. Thereby, the dates a crisis event occurred will be analyzed, June 23, July 14 and June 28. In addition, a constructive week random approach will be used for the duration. I will analyze the tweets starting with June 10 on week 1 followed by June 13 on week 2, June 21 on week 3, June 29 on week 4, July 7 on week 5, July 15 on week 6 and so forth. Furthermore, when analyzing tweets a codebook will be made in order to compare social media use in each embassy. For inter coder reliability, fellow graduate students will be asked to use my codebook in order to examine 15% of the tweets, a small section of the 15% will overlap, therefore creating validity in my findings.

Results or preliminary results and their impact on the field:
My preliminary results show low interactions between the public and Embassies. Additionally, I will determine if Embassies and the public interact more when there is a crisis. The public should have a relationship with embassy accounts prior to a crisis occurring, often times that is not the case.
Exploring Effects of Social Media on Brand Perceptions
Ashley Alvarez, Erika Toney, Eun Jeong Lee, Nicole Villafana, & Gina Goss, Mass Communication, Texas State University

Problem or research question:
With the rise of social media and technology in society, social networking sites (SNS) like Facebook have become a popular tool for companies wishing to market a particular product, service or brand. Facebook, the largest SNS with over one billion active users worldwide, provides a valuable platform for advertising and maintaining a brand. In this study, we aim to uncover the role Facebook plays in affecting consumers' perceptions of a product, service or brand, using social impact theory (Latané, 1981) as the theoretical framework.

Methodology or approach:
A focus group comprising 10 students at Texas State University will be conducted to explore among other things how relevant Facebook presence of a certain product, service or brand is to a younger population; and whether their perceptions based on Facebook comments, friends’ and celebrities’ comments are related to their intentions to buy a product, service or brand. Current research on the role of SNS in regards to perception is lacking information on how this specific population is affected. With college aged students being one of the most active group of participants on social media, it is important to understand how SNS contribute to their perception of a product, service or brand.

Results or preliminary results and their impact on the field:
Results of this exploratory study will provide valuable insights on what types of products, services, and brands are relevant and how online presence affects perception and buying intentions, thereby helping to develop a survey questionnaire for a large-scale study on the subject that could be conducted in the future.

References:
A Linguistic Overview of the Five Domains of Language as it Relates to Tagalog
Kevin Renz Ambrocio, Communication Disorders, Texas State University

Problem or research question:
What are the functional phonologic, morphologic, syntactic, semantic, and pragmatic rules that govern the Tagalog language?

Methodology or approach:
This research paper is structured on a theoretical approach to research. It is based on evaluating literature that discusses the theoretical and descriptive material of Tagalog, as well as detailed use of the English language as a comparison throughout some of the information. The research paper will include literary analysis of the different aspects of each language, referencing form, content, and use of language. It will discuss the rules of Tagalog language using detailed information from a linguistic perspective, referencing the English language periodically.

Results or preliminary results and their impact on the field:
This linguistic overview of Tagalog acts as a guide for future/current speech-language pathologists that may encounter language impaired individuals of Filipino descent, especially those who speak English and Tagalog. The findings in this research describe the five domains of language (phonology, morphology, syntax, semantics, and pragmatics) and their relationship to Tagalog. This provides speech-language pathologists a foundation, resource, and better understanding of the Tagalog language, in relation to English, so that speech-language pathologists will be more skilled in assessing, treating, and serving this unique population.
**Description of Different forms of Violence against women in 54 African UN member States: 1995-2015**

Lynn Trezzor Anderson, Public Administration, Texas State University.

**Problem or research question:**

This research study describes the availability of statistics on violence against women in Africa and assesses the extent that the data comprehensively addresses the nature of the problem in this region. In particular, the data is reviewed to determine if the psychological impact of violence on women is collected and presented in published studies. Women in the African region have experienced different forms of violence for decades. The United Nations Fourth World Conference on Women (1995), adopted *The Beijing Declaration and Platform for Action*, the most progressive blueprint ever for advancing women’s rights, that changed the way researchers and policymaker’s prioritize matters of violence against women. This study extensively reviews existing literature on violence against women and explicitly focuses on the 54 African United Nations member states that participated in the Beijing Fourth World Conference on Women. The research identifies three major categories of violence against women that are prevalent in Africa. The descriptive categories that emerge from the literature guide the creation of a conceptual framework that is used to organize scholarship about forms of violence against women in Africa. The descriptive major categories found are: (1) Domestic violence, (2) Socio-cultural violence and (3), Sexual violence.

**Methodology or approach:**

This study utilizes secondary data analysis to describe the categories of violence against women in Africa and to assess the nature and prevalence of violence in each category. The United Nations’ databases which include The Global Database on Violence against Women; The World’s Women 2015: Trends and Statistics; and UNICEF global databases 2014 are used to determine the nature and prevalence of each category of violence against women, in the 54 African UN member states for the years 1995-2015. The databases were selected based on data availability in the selected categories. The operationalization of the conceptual framework is presented as a coding sheet used for secondary analysis of existing data along the three major descriptive categories of violence against women.

**Results or preliminary results and their impact on the field:**

Preliminary results of the assessment revealed that while there have been data collection efforts by the United Nations and its affiliated entities, there is lack in incorporating the component of statistics to measure the psychological impact in addition to criminal justice dimensions of this scourge. There is clear evidence that African countries continue to face challenges that are affecting their achievement of the goals set by *The Beijing Declaration and Platform for Action*. Major reasons include: lack of adequate financial resources for gender equality and women’s empowerment; limited enforcement of laws to sustain violence against women and prevalence of established cultural and traditional practices that discriminate against women and girls.
Problem or research question:

Peer Assisted Learning Strategies (PALS) is a technique used to promote cooperative learning in a structured interaction focusing on literacy and reinforcing academic behaviors. Students work in pairs as both a “coach” and “reader” to provide support and motivation during literacy and other academic activities. During PALS sessions, the students learn to apply a variety of strategies to different areas in speech and language with the help of the peer paired in a positive environment with teacher supervision. The purpose of this study is to examine the effectiveness of a peer-assisted learning approach on fluency and literacy skills in school-aged children who present with difficulties in reading or writing. This study will also examine if this type of treatment approach will improve social skills and motivational levels as observed by the participants themselves.

Methodology or approach:

A multiple-baseline across-subjects design will be implemented with twelve participants with literacy difficulties such as reading fluency, phonemic awareness, spelling, and written language skills. This study will include baseline, intervention, and post assessment. School-aged clients will be paired with one to two peers during structured reading activities for 2 out of the 3-week period of Camp PRWL (Practice it, Read it, Write it, Live it). Treatment efficacy will be assessed using measures on sight word proficiency and writing skills. The participants will also complete a motivation to read survey that will measure self-perception on reading skills.
Impact of Clinician Animation in Therapy on Narratives of At-risk Bilingual Pre-Schoolers

Victoria R. Baier, Gabriela Cook, Lorissa C. Navarro, Maria Diana Gonzales & Erica Almaraz, Communication Disorders, Texas State University

Problem or research question:
This current study seeks to determine how clinician level of animation in therapy impacts the narrative quality of at-risk-bilingual children. The findings of this study seek to provide information for professional speech-language pathologists (SLPs) on the importance of using animation while providing quality therapy.

Methodology or approach:
7 Spanish-English bilingual participants from the central Texas region who were all at-risk for language impairment ranged from 4:2-4:7 years of age participated in the Multicultural Intensive Speech-Language Therapy Intervention Clinic (MISTIC) for 4 weeks. A rating scale for clinician animation (1=none & 5=complete) was conducted by researchers who watched the therapy session videos of the clinicians. Once determining the clinician’s ratings, the researchers compared the clinician’s score to the corresponding week’s narrative of each child. Children’s narratives were analyzed using the following measures from the Systematic Analysis of Language Transcripts (SALT) standard measures: MLU in morphemes, syntactic length, and Type Token Ratio (TTR) and grammaticality. Additionally, the researchers gave each clinician the rating scale and ask them to rate themselves on their own animation. The findings were analyzed in order to determine whether animation level had an effect on narrative quality.

Results or preliminary results and their impact on the field:
The preliminary results indicate improvement on the children’s narratives as the clinicians’ animation increased during therapy. It was found that when clinicians reported a higher level of confidence in service-delivery, there was a positive correlation on animation level. The results of this study indicate that it is imperative for clinicians to use animation as a way to encourage active participation and engage young clients for positive therapy outcomes.
**Problem or research question:**

Throughout higher education history, many writing instructors have endeavored, within the brief, first-year-writing window, to remediate struggling writers. Many instructors do not, however, have the stamina or the resources to stay with every student as long as necessary (Silva, 2012) to inculcate them with the thinking, interpreting, and presenting habits, readers generally identify as good writing (Nauman, Stirling, & Borthwick, 2011; Graham, Schwartz, & MacArthur, 1993). Further, despite good intentions and suggestions about college writing assignments as invitation(s) to join new discourse communities (Carroll, 2002), students often maintain evidence-based beliefs about writing in college as mostly meaning giving the instructor what she wants (Jeffery & Selting, 1999). As such, college writing remains a familiar but difficult game, the rules often change or remain hidden (Irvin, 2010), and the effort many students expend chasing elusive norms demands so much, and compromises the subtle craft many instructors expect (Curtis, 1988; Foertsch, 1995; Kirkland & Saunders, 1991). Moreover, as word processor and other information communication technology use blurs the lines between written and spoken conventions (Baron, 2002), prescriptivist grammarians grow ever more frustrated (House, 2009). Certain technologies have indeed changed the way students write (Dailey, 2004), but the concerns Hovey (1958) raised before such technologies existed remain relevant today. Many first-year students, and especially those students who place into developmental writing, still struggle with skills like applying knowledge about what an essay should contain (Best, 1996), spelling (Bennett-Kastor, 2005), and conventional rules (Wall, 1986). Technology use might exacerbate these problems, but some technologies also suggest new solutions (Grabill, 1998; Stan, & Collins, 2002), and many students prefer computer-assisted writing instruction (Fang, 2010; Wresch, 1984). Complicating the dynamic further: a popular notion, which suggests traditional-aged, first-year students, given their status as digital natives, understand technology as an academic tool (Kurt, Güñüç, & Ersoy, 2013; Palfrey & Gasser, 2013). As such, they often receive little or no specific instruction regarding such use (Brown & Czerniewicz, 2010). E.g., even though Microsoft Word (MS-WORD) enjoys preferred status around the world (Koers, 2011), and “few writers draft using anything but Microsoft Word anymore” (Singh-Corcoran, 2011, p. 34), during an informal question and answer period, no participant in the experimental group reported receiving MS-WORD-specific training. “Technology is so embedded in composing, it seems invisible” (Sing-Corcoran, 2011, p. 34).

**Methodology or approach:**

In the study, I measured how a mid-semester MS-WORD training intervention affected students’ writing performance outcomes. The final analysis suggested conditionally admitted students, in a
sumner bridge program, who received the intervention showed significantly improved writing outcomes relative to students who received no intervention.

**Results or preliminary results and their impact on the field:**

Repeated measures ANOVA results suggested statistically significant differences between writing scores at mid-semester and end-of-semester (pre-to-post) depending on treatment condition (F (2, 53) = 6.848, p = 0.002, partial $\eta^2 = .205$). Specifically, results suggested, compared to peers who received no formal MS-WORD training, the students in the intervention group demonstrated exceptional progress. Students in control and attention-control groups showed a decrease in performance from mid-semester to end-of-semester, perhaps what some researchers have referred to as mid-semester slump (Bolton, 2003). These results also suggest, even a brief and inexpensive technology intervention can produce significant effects, and once configured, students can use MS-WORD over many years with continued and substantial productivity gains (Fischer, 2001). Interventions such as these might improve students’ writing outcomes, multiply instructor efforts in those courses, and extend effective technology use on post-secondary campuses.

**References:**


Problem or research question:
There is very little research regarding the convergence of visual communication, psychoanalysis, sociology and comic books.

Methodology or approach:
This research used a content analysis of the Sandman comic series created by Neil Gaiman to explore the application of theory from visual communication, psychoanalysis, sociology, and philosophy.

Results or preliminary results and their impact on the field:
Psychoanalytic and sociological theory, as they are applied to visual media, are strongest in the realms of film and television. This research adds to the limited application of visual communication theory in comic books as a medium and more specifically to the Sandman comic book series. A discussion of the differences between visual communication and theory in films/television and comics were also undertaken. The use of color, shadow and other visual aspects were analyzed, but also of importance were the depictions of various states of mind personified as human in the Sandman series.
Influential People in Female Students’ Decision to Select Academy/Academic Focus: An International Comparative Study
Owusu Ansah Boakye & Laura Rodriguez Amaya, Adult, Professional & Community Education, Texas State University

Science, Technology, engineering, and mathematics (STEM) are broadly viewed as important to the national economy. Interest about America's capacity to be competitive in the global economy has prompted a number of calls to take action to reinforce the pipeline into these fields (National Academy of Sciences, Committee on Science, Engineering and Public Policy, 2007; U.S. Government Accountability Office, 2006; U.S. Bureau of Education, 2006; Hill, C., Corbett, C., St. Rose, A., & American Association of University, W. (2010). This is also true in Ghana. In 1957, “Ghana nursed the dream of rapid social and economic development using knowledge and tools derived from Science and Technology” (Ministry of Environment, Science and Technology, 2010).

To strengthen or reinforce the pipeline into these fields, it is imperative to strengthen the number of female representatives in STEM programs. As many females drop out of STEM programs and also avoid pursuing STEM programs and degrees in high school and college respectively, there is a need to inquire why there a few or no role models and influential people in the lives of these female students in middle and high schools. This paper will build on a previous exploratory study on the influences and motivators of students when selecting a STEM academic program in secondary education. The study focuses on identifying influential people on 9th and 8th female students in Ghana and the United States when selecting their academic program. Preliminary findings on the previous study show that a greater percentage of Ghanaian female students report having a role model in comparison with United States female students who report not having a role model at all (Rodriguez and Owusu, 2015).
Content Analysis of the Past and Now: Portrayal of Women in K-pop Male Singer/Group's Music Videos
Janice Cho, Media & Communication, Texas Tech University

You can find many genres, from R&B to heavy metal, of music on YouTube. But did you know that K-pop (Korean popular music) was the first category to be created for a particular nation's music on YouTube? Believe it or not, K-pop is known to be the biggest growing musical genre. And like numerous musical genres; K-pop shares many similarities with Western pop music. The biggest common factor, however, is that they both mostly talk about falling in love and or heartaches of painful breakups. And this trend for popular music remained for decades-long, worldwide.

During the long history of pop music and its beloved popularity that act as a spokesperson for people's everyday life; have the portrayal of women stayed constant as well? How are women represented in those videos? Are they valued as equally important as male characters? Are women sexually objectified or not? If so, in what terms? The study intends to answer the questions by analyzing women in K-pop male singer/group's music videos. It will be a content analysis comparing music videos released in 2005-2006 (Group 1) and 2013-2014 (Group 2). Fifteen songs will be selected in each group depending on YouTube’s popularity algorithm.

The study will have three hypotheses:
Hypothesis 1: More westernized K-pop (recent) songs (Group 2) have more sexual objectification by focusing on sexually suggestive movements of women than songs from the early 2000s.
Hypothesis 2: Women in the recently released songs (Group 2) dress more suggestively (short and tight) than women depicted in the past songs (Group 1).
Hypothesis 3: Women in Group 2 display more depth and levels of emotions than in Group 1.

The study assumes that focus on parts of the body (e.g., legs, breasts, lips, etc.) to have increased focus and that women will demonstrate their emotions more expressively (e.g., punching man's chest compared to slapping hard) including more forwardness during flirtation.

K-pop is not a limited musical genre being consumed only by Koreans or people of Asia. Its popularity is capturing Europe, Australia, and both North and South Americas’ attention. Most of the consumers are young teenage girls and it is vital to prove whether K-pop offers "safe sexual content" as K-pop argues itself to do. Also, it is crucial to understand the differences and similarities of female perception of the past and today. This study will be an international popular culture content analysis with the focus on gender; making itself unique in many communication areas.
Negative Effects vs. Gratifications of Maintaining a Social Media Persona

Michael Cody Coker, Breanna Salinas, Annabel Fidler, Rachel Mosley & Debra Price, Mass Communication, Texas State University

In the last decade, online branding by individuals has dramatically evolved alongside the growth and expanse of the social media marketplace. With the adaptation of self-branding becoming common practice, the immediacy of content and perception of the intended audience may contribute to negative emotions or gratifications to a greater extent. For this study, self-branding is defined as a personal online image constructed to establish a specific persona perceived by an audience.

Preliminary Research and research problem:

Prior research suggests that negative online experiences may outweigh the benefits and gratifications of social media usage (Fox & Moreland, 2014). Additionally, much of the research involving the psychological effects of social media has focused on using Facebook as a social media platform (Sagioglou & Greitemeyer, 2014). This research will examine how stressful or satisfying it is to maintain an online brand and personal image. Negative effects within this study are defined as stress caused by maintaining an online brand. Positive effects are defined as gratifications such as increased self-esteem, feeling of inclusion, and expanding personal and professional networks. We expect to build on Fox and Moreland’s discovery that negative effects outweigh the benefits of social media usage, specifically when maintaining a personal brand. Primarily, the objective of this research is to identify social media stressors or gratifications in relation to the Information Manipulation Theory. According to this theory, message senders formulate a prescribed persona in order to give an impression that varies from the sender’s reality, (McCornack, 1992).

Methodology or approach:

The study will include 10 focus group subjects ranging in age from 18-24 year olds. The participants will be students at Texas State University. They will be asked a series of questions to examine the feelings involved with social media usage. The questions will be devised around topics including stressors and gratifications of social media usage, such as, “Do you feel that your participation with social media causes more stress or gratification?” and “Do you feel pressured or inspired to demonstrate your successes on social media?” Research Problem, cont.: Using these questions and this theory as a guide, the determined results will detail if college students are affected positively or negatively by maintaining a social media image.

References:


Teaching Health Care Students the Radial Arterial Puncture Procedure
Kevin Collins, Christopher Russian & Joshua Gonzales, Adult, Professional & Community Education, Texas State University

Problem or research question:
The radial artery puncture is a frequently ordered medical procedure for patients requiring blood gas analysis. Deviating from the proper procedure increases the likelihood of error and jeopardizes patient safety. Due to the technical difficulty of the procedure, the potential hazards to the patient, and the critical nature of the results, it is paramount that the person collecting the arterial sample be proficiently trained. The teaching methodology for the radial artery puncture is rarely addressed in the medical literature. The purpose of this project was to revise the teaching and learning curriculum for the arterial puncture procedure.

Methodology or approach:
Participants included 44 first-year respiratory care students enrolled in a baccalaureate degree-granting respiratory care education program located at a large public university. The first-year respiratory care students were enrolled in a clinical practice course and participated in an expanded curriculum on arterial puncture technique. The new five-step curriculum included: 1) a face-to-face lecture, 2) radial artery localization, 3) blunt-tipped needle simulation, 4) manikin arm puncture, and 5) a peer assessment video. Students participated in an inter-rater reliability exercise for step five. The multi-step process for teaching the arterial puncture stressed process over outcome. Students were required to master each step with a satisfactory evaluation to successfully pass the unit.

Results or preliminary results and their impact on the field:
Based on the strong inter-rater agreement associated with step 5, peer video of the arterial puncture, it can be interpreted that the training approach positively impacted learning for this unit. Clinically the faculty have noticed an improvement in arterial puncture technique from the students. This curriculum and our experiences with implementation can serve as a guide for anyone tasked with teaching the arterial puncture procedure.
Narratives and Neoliberalism: Food Insecurity and Hunger in Central Texas
Chaleigh Craft & Ana Juárez, Anthropology, Texas State University

Problem or research question:
What are the stories of people who use food assistance programs in Central Texas?

Methodology or approach:
I used a mixed methods approach including observations, interviews, and surveys.

Results or preliminary results and their impact on the field:
Food insecurity is a rampant problem in the United States. In Texas, the rate of food insecurity exceeds national averages, leading many Texas residents to rely on food assistance programs to supplement their food supply. The prevalent narrative presented by media and capitalized on by individuals portrays recipients of assistance as lazy, cheating the system, or undeserving. The root of such ideas can be found in our neoliberal philosophy that emphasizes the role of hard work and personal responsibility as a means to success. This paper presents the complicated and complex lives of those using food assistance. It is through their stories that the neoliberal assumptions are exposed as, by large, baseless and naïve. Their narratives show hard work, great personal responsibility, and enduring spirit despite the unfortunate circumstance of serious medical conditions and profound hardship in a system that catch 22’s them into cyclical oppression. Furthermore, their lives provide an honest assessment of the severity of food insecurity, illuminating that it is a serious issue with grave consequences, and should be treated with the same determination as hunger.
Self–Assembly Approach for Gas Barrier Films
Maedeh Dabbaghianamiri, Sayantan Das & Gary W. Beall\ Materials Science Engineering and Commercialization, Texas State University

Producing materials with unique physical properties can be attained with Layer by Layer (LbL) deposition technique. LbL Fabrication method using self-assembly allows to design multilayer ultrathin films. A phenomenon through which an interaction drives the polymer and nanoparticle to form a larger nanostructured film spontaneously is called Self-assembly. This spontaneous organization can happen because of the direct or indirect specific interaction between the polymer and nanoparticle. Self-assembled gas barrier films have variety of applications in packaging industry for example a good food packages helps food to have a longer shelf life this happens when the rate of ingress gas to packages is less. We have developed techniques which can be employed to make self-assembled gas barrier films. Employing inkjet printing approach for producing LbL films are more efficient than other techniques since there is no need for any rinsing step thus saving cost, time, and material. In this approach, different polymers and nanoclay solutions were analyzed for their effectiveness as a gas barrier film. These thin films are consisting of polymers and nanoclays on a Mylar substrate, Poly Ethylene Terephthalate (PET). The films are characterized by using X-Ray Diffraction (XRD), Scanning Electron Microscopy SEM, Profilometer and the barrier properties for oxygen permeation are measured as well. The results clearly show a good oxygen barrier behavior of a combination of, Polyvinyl acetate (PVAc), and Montmorillonite (MMT)
Female Stereotypes in Video Games

Charles Duoto, Mass Communication, Texas State University

Introduction:

The current state of video games could easily be described as a second renaissance. The newest hardware for gaming systems has been released, whether it is advancement in virtual reality, or simply the 4K compatible consoles on the marketing horizon. At double the revenue of the film industry in 2013, the video game entertainment industry has reached its largest audience yet (UNESCO Institute for Statistics, 2013). New mobile video games like Pokémon GO, which was praised for its use of augmented reality, show once more that video games have become a large part of young people’s lives, for both genders. Even with its popularity among both sexes, video games are still largely assumed to be a boys club. In 2014, 76% of video game developers were male, 22% were female, and 2% were other (IDGA, 2014). While this represents a large increase in female participation from previous years, it still shows that diversity is lacking within the industry.

Problem or research question:

This research explores whether female video game characters appear as often as their male counterparts, are more sexualized than their male counterparts, if they are portrayed as capable, and if they simply appear as secondary sidekick characters. According to Downs and Smith, this imbalance of female participation has resulted in a large number of female characters being limited to secondary roles (2005). In addition to being limited to secondary roles, it is very likely that there are other social implications such as a degree of sexual stereotyping regarding female characters. The effects are very likely a deterrent from getting women to participate in the development in video games.

H1: Female video game characters will not appear as often as their male counterparts.

H2a: Female video game characters will be more sexualized than their male counterparts.

H2b: Female video game characters that are more sexualized will also be portrayed as more capable.

H3: Female video game characters will often be secondary sidekick characters.

Methodology or approach:

The researcher conducted a content analysis concerning female video game characters and stereotypes. Various video game clips were selected from YouTube involving female characters of both primary and secondary roles released between 2000 and 2016. The list of games to select footage was determined by viewing lists on popular websites such as Wikipedia, which has a large community maintained list. On average, the selected videos were around 5 minutes in total.
length. Several different attributes were coded. The most obvious was the game’s rating. These ratings generally varied from E for everyone, T for teen, and M for mature. The coders also cataloged the genre of the game. Certain genres may vary from action to role playing to driving games. Additionally, several sexual variables such as breast size and appropriate clothing were coded.

References:


Population Viability of the Reddish Egret (Egretta rufescens) in Texas: An Analysis of Management Actions and Implications

Sarah Durham, Clay Green, Floyd Weckerly & Steve DeMaso, Wildlife Ecology, Texas State University

**Problem or research question:**

Reddish egrets are a threatened waterbird species that inhabit the Gulf Coast of the U.S. and Mexico, as well as, the Bahamas, Cuba, the Mexican Pacific Coast, and the Yucatan peninsula. The plume trade of the late 1800s drastically reduced global population numbers of reddish egrets. By the 20th century, the species was decimated and possibly extirpated in many parts of its range. While much of the historical range has been recolonized, the reddish egret remains North America’s least abundant heron species. An estimated one-third to one-half of the global reddish egret population occurs in the United States, with Texas having approximately 75% of the breeding pairs. While egret population numbers may be increasing throughout portions of the range, many factors continue to threaten the persistence of the species.

**Methodology or approach:**

Population viability analyses (PVAs) are a common method of predicting a species’ persistence into some future time. The purpose of developing a population viability analysis for *E. rufescens* is to identify possible factors impeding the growth of Texas populations. By assessing the relative threat of each contributing factor and identifying vulnerable life stages, a robust PVA can estimate how different management actions will affect population demographics.

**Results or preliminary results and their impact on the field:**

The outcome of this analysis will help guide the management of Texas populations of *E. rufescens*. If successful in improving depressed vital rates, this model will serve as the backbone for the creation of a range-wide PVA.
Problem or research question:

Urban agriculture projects seek to ameliorate issues of food access and food sovereignty for people living in areas with low access to fresh foods, including food deserts. Within this discourse, community gardens have been promoted as vehicles to reclaim unused urban space, produce food locally, and connect populations to their food sources and larger community. A variety of community garden models exist; in Rockford, many community gardens grow food for donation to food pantries as part of a program to benefit socioeconomically disadvantaged persons in the city. However, the ability of these gardens to involve neighborhood participants and provide the social capital-related benefits attributed to community gardens in the literature is uncertain. Here I examine community gardens in Rockford, IL to assess the extent to which they contribute to residents' ability to obtain fresh produce as well as other social benefits.

Methodology or approach:

Here I use a mixed-methods ethnographic approach, utilizing key informant interviews, focus groups, surveys, and participant observation to study the significance of various urban gardening projects by investigating their social impacts and resulting ability to fulfill the benefits often ascribed to them. By approaching this issue from the perspective of gardeners and non-gardener beneficiaries, I hope to elucidate the efficacy of the "growing food for others" style of community gardening that is currently dominant in Rockford.

Results or preliminary results and their impact on the field:

I find that while non-gardening community members are benefitting from the increased produce that the gardens provide, they are not receiving all of the social and communal benefits associated with actively participating in a garden. More fundamentally, the “growing for” model of community gardens has the potential to reinforce structural inequalities already present in urban food systems, creating a paternalistic “us and them” mentality where recipients of the community garden produce still lack autonomy in terms of food access and food choices. I suggest that a critical examination of this model of community gardens is needed in a wider array of communities to better understand the extent to which previously documented benefits of community gardens fit with this model. Findings from this study may be applied to other gardening programs in other locales and I suggest that future efforts take into account the potential social and communal benefits of a highly integrated and invested group of community members in these gardens.
Social Media’s Transforming Effect on Visual Communication
Bailey Gilbeaux, Mass Communication, Texas State University

Problem or research question:
Social media has been around for over a decade and has become one of the technological and communication giants of our time. Networks like Facebook and Twitter have billions of users and serve as a forefront for information sharing. Due to the social media storm, the way people communicate visually has also evolved. Simple communication has gone from images supported by textual information to videos promoting celebrities, news stories, and memes. A Facebook user’s news feed is not just comprised of typed words but of hundreds of videos or animated images. Communication through visual media has become increasingly popular, making basic textual communication seemingly irrelevant. Research Question: How has social media transformed visual communication and heightened its importance?

Methodology or approach:
Using content analysis this research analyzed current news feeds on Twitter and Facebook. Coders indicated how many times an image or video appeared as a post. Using the same method, archived social media news feeds were compared to current practices to demonstrate how the use of visual communication has evolved. The visual content was broken down into still images, animated images, memes, and videos.

Results or preliminary results and their impact on the field:
Preliminary results showed an increased use of memes, animated images and videos, but a decreased use of basic images on social media over time. This study contributes to social media research, particularly in how it has evolved since its emergence, and provides content creators with valuable information on how to match their information sharing and communication methods with what is popular to their users.
Aging, a Perspective Through the Eyes of Zebrafish (Danio rerio)
Pedro Gonzalez Jr., Melissa Esparza, Andrew Horton, CJ Schubert & Dana García,
Biology, Texas State University

Problem or research question:

The optic nerve is the cranial nerve that sends messages from the eyes to the brain and is part of the central nervous system (CNS). Astrocytes help maintain neuronal health within the CNS. In humans, senescence of astrocytes is thought to be a factor in aging related diseases affecting the CNS. 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 aging of zebrafish. We also investigated p16/ARC, a protein that has been associated with aging-related diseases. Lastly, studies on the changes in the optic nerve of human cadavers in which measurements of the optic nerve were done revealed that there was an increase in the diameter with increasing age. We performed similar measurements on the optic nerve of the zebrafish. If all three of these indicators for aging and senescence are observed, then zebrafish may be a tenable animal model for understanding aging in humans.

Methodology or approach:

The fish were raised in aquaria located in Room 272 of the Supple Science Building or purchased from ZIRC to ensure the exact age of the fish. Fish were euthanized and then placed in 4% paraformaldehyde solution and left overnight. The next day, the fish were washed in phosphate buffered saline solution three times. Afterwards, the fish were measured, sexed and then placed on a stereomicroscope for dissection. Eyes and brain of the fish were removed and placed in a 30% sucrose solution. The tissue was frozen, embedded and sectioned into 20 µm thick sections using a cryotome and then adhered to gelatin-coated coverslips. Antibodies for immunolabeling Gfap were 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 was used for immunolabeling p16-ARC, but with the addition of anti-p16 antibody and the appropriate secondary antibody. Tissue sections were observed and positive and negative control images were acquired using an Olympus FV1000 confocal laser-scanning microscope. Intensity of labeling will be quantified by measuring the pixel intensity using ImageJ software. Optic nerve diameters were measured from images obtained from 6 (n = 5), 9 (n = 5) and 12 (n = 3) month old fish. Outliers were removed. Data were analyzed using ANOVA and post-hoc t-tests.

Results or preliminary results and their impact on the field:
Contrary to expectations, GFAP labeling was observed in zebrafish as young as 3 months old. Intensity and extent of labeling increased as fish aged. Labeling of p16-ARC was observed in 9 and 12 month old fish, but not in 3 and 6 month old fish. The diameter of the optic nerve increased significantly as the fish aged.
Chinese Immigration and Understanding Irregular Migration across the United States-Mexico Border

Alisa Hartsell, Geography, Texas State University

The United States borders have not always been covered in fences, patrolled by military personnel with dogs sniffing for illegal substances. It used to be a relatively open to people and goods crossing. While the border was formally set up in 1848 after the US Mexico War, the United States government began patrolling the border for immigrants in 1885. Chinese laborers were the first population to cross the United States-Mexico border ‘undocumented,’ seeking ways around the United States’ Exclusion Act of 1882. Many migrants sailed to northern Mexico avoiding California’s port officials that led to thousands of Chinese migrants crossing the open borders between the United States and Mexico. This paper discusses the establishment of border control and irregular immigration over the United States-Mexico border beginning with the Chinese migrants. The closing of America’s borders during this time period shaped our modern ideas about border crossing and our arguments about illegal immigration today. Although the Texas Rangers patrolled limited areas, the first individuals guarding against unauthorized migrants on the border were Chinese Inspectors who worked under the Department of Commerce and Labor. This small band of 75 men, mounted on horseback, were the first established federal border patrol. The creation of the modern border patrol under the Department of Commerce in 1915 focused on policing and deporting Chinese laborers. The Immigration Act of 1917 created comprehensive immigration policy barring undesirable migrants from entering the United States by establishing a tax and forcing each immigrant to complete a Literacy Test for admittance into the U.S. This act effectively barred most migrant laborers from China and Latin America. Ultimately, all immigration policy changed in 1924 with the passage of the Immigration Act that included Quota system based on national origins.

This paper will explore irregular border crossing through Immigration and Naturalization Service’s records, correspondence between Chinese Inspectors, immigration case files, congressional records, and US immigration policy between 1882 and 1924 (c). It will focus on the records in Texas since thousands of Chinese immigrants migrated through the state. Current scholarship around unauthorized migrants crossing the US-Mexico border focus on the narrative of Hispanic populations that continue to cross by the thousands each year. According to the L.A. times, between October and May of the Border Patrol apprehended around 700 Chinese nationals, a surge from the previous eight years around the same time period. Many of these irregular Chinese migrants are due to human trafficking and asylum seeking, but like past generations who crossed the border some are economic migrants looking for work in the United States. This research provides a background for my graduate research in current trends in Chinese migration across the US-Mexico Border (b). I hope this research will broaden the understanding of immigration over the US-Mexico border through example of Chinese migrants who began undocumented migration post Exclusionary Act of 1882(d).
Characterization of Methylammonium Lead Halide Perovskite using an Orthogonal Electrolyte
Mehedhi Hasan, Swaminathan Venkatesan, Dmitry Lyashenko & Alex Zakhidov, Materials Science, Engineering & Commercialization, Texas State University

Problem or Research Question
Organic-inorganic trihalide perovskite thin films are soluble in most of the polar organic solvents and thus until now they were not considered suitable for electrochemical processing. In this paper, we report hydrofluroether (HFE) solvent based electrolyte for electrochemical processing and characterization of organic-inorganic trihalide perovskite thin films.

Methodology
Organic-inorganic trihalide perovskite films are typically deposited from solution that consists of an organic salt, methylammonium halide (MAX, here X=Cl, Br, I) and an inorganic salt, lead halide (PbX₂). Between these two salts, MAX is the most soluble part of perovskite; hence, it is necessary to ensure the electrolyte to be used does not dissolve MAX specifically. In order to ensure minimal dissolution of perovskite in the electrolyte, solubility of methylammonium iodide (MAI) in several classes of solvents were investigated and an orthogonal solvent is determined. In addition to being orthogonal with perovskite, to use the solvent for preparing electrolyte, the intended salt should be soluble in the solvent. Moreover, the electrolyte should meet the requirement of ionic conductivity and stability for reasonable range of applied bias. The solvent we determined which is orthogonal with perovskite is used to prepare electrolyte and then used for cyclic voltammetry of perovskite.

Results and their impact on the field
Among all solvents used, it was found that, MAI has low solubility (<10⁻³) in HFE based solvents, which have relatively higher dielectric constant. Further, maximum solubility of bis (trifluoromethane) sulfonimide lithium salt (LiTFSI) in different solvent composition of HFE 7100 and diethyl carbonate (DEC) were determined and resulting conductivities of electrolyte were measured. Cyclic voltammetry (CV) measurements reveal quasi-reversible oxidation of CH₃NH₃PbI₃ films in this orthogonal electrolyte and highest occupied molecular orbital (HOMO) level was calculated from oxidation onset. Finally, orthogonality of HFE based electrolyte was further confirmed by comparing the performance of solar cells with and without electrolyte treatment on CH₃NH₃PbI₃ perovskite film. The variation of efficiency, open circuit voltage and short circuit current after HFE based electrolyte treatment is negligibly small compared with pristine solar cells suggesting HFE as orthogonal solvent and HFE based electrolyte as orthogonal electrolyte for CH₃NH₃PbI₃, which can be used for electrochemical processing and characterization.
#StandWithWendy versus #SitDownWendy: Hashtag Activism and the Texas Senate Bill Five

Nicole Hengst, Mass Communication, Texas State University

**Problem or research question:**

How did levels of engagement differ in support of or opposing the Senate Bill 5 filibuster using the hashtags #StandWithWendy and #SitDownWendy?

**Methodology or approach:**

For this project, the focus will be an event that happened in Texas in 2013 when Texas Senator Wendy Davis attempted to filibuster Texas Senate Bill 5, a bill that would have proved detrimental to women’s rights if passed. The bill would force women’s health clinics to close from the expenses of trying to adhere to the new law. In a state as large as Texas, closing smaller town clinics would force individuals to drive hours to large metropolitan areas not just for abortions, but also for many other typical women’s health care appointments. Senator Davis’s 13-hour attempt drew attention from all over the country with marchers traveling to the capital of Texas, and widespread support was shown on social media with the hashtag #StandWithWendy. Those opposing the filibuster and proponents for the bill used the hashtag #SitDownWendy to show their disapproval. A random selection of 250 tweets containing the hashtag #StandWithWendy and #SitDownWendy will be analyzed for content. The tweets will be coded by a total of 2 to 3 coders for many different aspects. First of all, each tweet will also be coded to determine if the tweet is original content created by the individual, or simply a share or retweet. Creating content would signify a higher engagement level than simply sharing or retweeting previous information. The tweets will also be examined to determine whether the tweet is in support of, or opposed to Senator Davis’s filibuster, or if the tweet was neutral. Additionally, the tweets will be coded for use of personal experience or the experience of someone else, religious beliefs, or beliefs about the government’s right to legislate versus the right of individuals to make their own choices about their body. Each of these aspects is highly personal, and would reflect a high degree of self-interaction with the situation before responding to it.

**Results or preliminary results and their impact on the field:**

The Twitter data set which includes tweets from June 25, 2013 to July 3, 2015 details 210,805 tweets for #StandWithWendy and 20,745 for #SitDownWendy. At this point it would seem that there was more engagement with the #StandWithWendy hashtag, however this does not determine if the tweets were for or against the cause. Further research will allow conclusions to be drawn regarding supporting tweets versus opposing tweets and their engagement levels. At the conclusion of the project, these results will contribute to a growing body of work surrounding hashtag activism or “slacktivism”. There is a disconnect between the number of users who tweet
using a hashtag for awareness and the number of individuals who donate to causes, protest, volunteer, or any other physical contribution to the cause. By first analyzing the level of engagement these users exhibit when using the hashtags, perhaps we can better understand how to activate them from “slacktivists” to physical contributors.
Herpetofauna Diversity and Detection Comparison among Multiple Habitat Treatments in the Lost Pines Ecoregion
Jasmine Hernandez, Shawn McCracken, & Michael Forstner, Biology, Texas State University

Problem or research question:
The Lost Pines ecoregion of Bastrop County, TX has undergone anthropogenic habitat changes drastically altering the overall natural landscape. After decades of poor fuel management, one of the major resulting landscape changes in this area has been wildfire. The 2011 wildfire in Bastrop eliminated the excessive fuel loads, but also modified the critical habitat unit for the Houston Toad. This highlights the importance of incorporating more effective risk management practices as part of our stewardship for toads and people. One such practice is mechanical thinning, a fuel reduction technique, that aims to remove excessive brush, restore healthy forest landscape, and enhance habitat quality for wildlife species, while limiting the impact of natural disasters such as wildfire. Now, 5 years after a large wildfire event, this study seeks to evaluate the response of local herpetofauna to wildfire management practices, such as mechanical thinning, and determine its viability for this area.

Methodology or approach:
The study area encompasses three localities in Bastrop County (Welsh, Griffith League Ranch (GLR), and Bastrop State Park (BSP)) that are in close proximity to each other, but have seen alternative land management techniques implemented since the wildfire 5 years ago. These sites were sampled weekly, and differences among herpetofauna diversity across the multiple treatments (mechanical thinning, catastrophic wildfire treatment, and an untreated control) were observed and record. To assess this diversity, coverboard arrays and visual encounter survey transects were applied for measuring abundance and detection of herpetofauna within each of the three treatments. External environmental conditions such as relative humidity, average temperature, and average wind speed were measured to determine influence on, and correlation among, herpetofauna detection. A Three-Way ANOVA was used to assess variation of coverboard arrays and herpetofauna preference between the treatments. A Principal Component Analysis was used to determine correlation between herpetofauna detection and the external environmental variables.

Results or preliminary results and their impact on the field:
A total of 252 reptile and amphibian individuals were detected using the two field methodologies. Highest herpetofauna abundance and detection (n=140) were observed under the thinned treatment; whereas the highest herpetofauna species diversity (n=10) was observed equally within the control and thinned treatment. There was no significant effect of herpetofauna preference of coverboard selection among the three treatments (p > 0.05). While the final results suggest that a mechanical thinned treatment evokes a positive herpetofauna responses, further investigation of reptile and amphibian responses and patterns should be completed to understand
the implementation of this forest management technique as a tool for habitat management in the Lost Pines ecoregion.
Sleep Analysis – Between consumer and clinical
Lee Hinkle & Vangelis Metsis, Computer Science, Texas State University

Problem or research question:
Sleep is critical for proper human health. Today there are a number of different ways to analyze sleep. On the clinical side a polysomnography or sleep study is widely regarded as the definitive way to evaluate quality of sleep and diagnose associated medical issues. Unfortunately, polysomnography requires significant equipment with multiple wired connections to the subject and often must be performed in a clinic under the constant supervision of a trained medical professional. As a result, the quality of sleep may be compromised and there is considerable expense which usually precludes multiple sessions and may deter the patient from getting the study at all. On the consumer side rapid advances in phone and wearable technologies have allowed limited evaluation of sleep on a near continuous basis. Examples include write worn wearables that generate summary reports of quality of sleep and specialized phone applications that identify snoring events through the use of continuous acoustic recordings.

This research focuses on the area between clinical and consumer sleep study. Data was collected using research grade equipment to monitor physiological signals during sleep. The equipment used can measure items such as heart rate and respiration much more accurately than consumer wearables but is significantly less expensive than a full polysomnography setup. Research questions to be explored are: What types of sensors provide the best data with the least intrusiveness to the subject’s natural sleep? What conclusions can be drawn from the collection of sensor data? Is it feasible and worthwhile to have the ability to collect and analyze quality of sleep with a system that lies between the consumer and clinical options?

Methodology or approach:
The methodology for this study is the collection of sleep data by the author(s) which is then analyzed using MATLAB to perform signal processing and generate summary results.

Results or preliminary results and their impact on the field:
Preliminary work shows that wired sensors are very distracting and may impact the results of any sleep. On the positive side the use of accelerometers to track body position and movement is very non-invasive provided the size of the sensor is reasonable and the mounting is secure and comfortable.
This study uses the storm surge sediment beds deposited by Hurricanes Audrey (1957), Carla (1961), Rita (2005) and Ike (2008) to investigate spatial and temporal changes in sedimentation rates on the McFaddin National Wildlife Refuge in Southeast Texas. Fourteen sediment cores were collected along a transect extending from 90 to 1230 meters inland from the Gulf Coast. The hurricane-derived sediment beds identified in each core are marker horizons that facilitate assessment of marsh sedimentation rates from nearshore to inland locations as well as over decadal to annual timescales. Near the shore, where hurricane-derived sedimentation has increased elevation by up to 0.68 m since 2005, there was no measurable marsh sedimentation in the period 2008-2014. Farther inland, at lower elevations, sedimentation for the period 2008-2014 averaged 0.36 cm per year. The reduction in sedimentation on the nearshore part of the marsh is likely due to reduced flooding in response to increased elevation from hurricane storm surge sediment deposition. The results of this study provide valuable knowledge about the sedimentary response of coastal marshes subject to storm surge deposition and useful guidance to public policy aimed at combating the effects of sea level rise on coastal marshes along the Gulf of Mexico.
How I Speak and Who I Am: Understanding Identity and Accent
Meagan A. Hoff, Developmental Education, Texas State University

Problem or research question:
Accent is among the first manifestations of identity that we reveal to others. Interlocutors give and interpret information including ethnic and cultural affiliations through those first syllables and sounds of an utterance. Given that identity is a product of social labeling and self-identification, by linking identity and pronunciation, this present study gives insight into the dynamics of cross-cultural communication. The goal of this study is to explore whether ethnic identity and pronunciation correlate at the two time points, and to see if changes in pronunciation skill are predicted by ethnic identity. The hypothesis being explored is that ethnic identity will predict native-like pronunciation acquisition in second language.

Methodology or approach:
Participants consisted of 20 native Mandarin speakers in their twenties, recently arrived in the United States, and enrolled in a Midwestern American university. This research is a quantitative investigation of the correlation between ethnic identity achievement and accent acquisition in a second language using Pinkney’s (1992) Multigroup Ethnic Identity Measure, a demographics survey, and a pronunciation measure consisting of English phonemes that are challenging for native Mandarin speakers. Data was collected at the beginning and end of an academic term.

Both ethnic identity and other-group orientation were investigated; however, only other-group orientation significantly correlated with degree of accentedness, whereas strength of ethnic identity achievement showed no significant correlation. More importantly, this correlation is only found at the time of arrival in the host country. This means that other-group orientation may be a predictor of degree of accentedness during the learning process prior to immersion in the target-language context. The results also indicated that orientation of the participants towards other ethnic groups decreased significantly over the course of the first semester of study at a foreign university. This decline in other-group orientation mirrors the shifting trends reported by participants in time spent with compatriots, Americans, and people from other nationalities. The data showed a decline in time spent with Americans and others, with a concurrent increase in time spent with compatriots.

Results or preliminary results and their impact on the field:
This research has the potential to inform how educators approach pronunciation education, and will also provide insight into the communicative burden experienced by language learners and how such experiences influence the learners’ progress. In short, the research generated from this study can inform both education in second language acquisition as well as allow educators to better understand cross-cultural interactions that are increasingly important to navigate.
An Evaluation of Environmental DNA (eDNA) for the Detection of the Endangered Houston Toad (*Bufo houstonensis*) Using Conventional PCR Assays
William Keitt & Michael Forstner, Biology, Texas State University

**Problem or research question:**
Environmental DNA (eDNA), is a rapidly growing molecular survey technique that is being increasingly implemented as a less invasive survey methodology for a variety of aquatic and terrestrial species. Despite increasing instances of its use, there have been relatively few attempts at validating the efficacy of this method. One of the main attractions to this survey methodology, is that it offers not only the benefit of being less time intensive than traditional survey methodologies, but offers some protection from the impact of false negatives - failing to detect a species when it is actually present. This is especially relevant to maintaining critical habitat for species of concern. This study seeks to assess the validity of eDNA in detection of the endangered Houston Toad (*Bufo houstonensis*) in Bastrop, Texas.

**Methodology or approach:**
The Griffith League Ranch (GLR), a primary recovery site of the Houston Toad in Bastrop County for the past 15 years, was sampled weekly from February to June of 2016. Nine perennial ponds on the GLR were surveyed during the weekly monitoring and a total of 469 water samples and concomitant water quality measurements of temperature, pH, conductivity, dissolved oxygen (DO), and turbidity were collected during this period following a USGS approved sampling protocol for eDNA. Of the 469 samples collected, 106 of these represented positive control samples. These were collected from buckets of water containing *B. houstonensis* egg strands released on the GLR as part of the Houston Toad recovery effort by the Houston Zoo. Each of the 469 samples were filtered through a cellulose nitrate membrane to filter out eDNA from the water sample. The collected samples were evaluated using conventional PCR assays, which amplify a targeted region of DNA allowing for an assessment of presence to be made based on detection of DNA from water samples. In this instance, a diagnostic mitochondrial DNA segment was used as a known *B. houstonensis* primer.

**Results or preliminary results and their impact on the field:**
Preliminary PCR analyses show that, 71% of the 106 known positive samples showed amplification of Houston Toad DNA, while only 4 of the total 363 pond samples amplified Houston Toad DNA. Overall, the preliminary results of the PCR assays suggest that such conventional approaches may not be the most sensitive method for amplifying eDNA of ephemerally present, pond-breeding amphibians. Therefore,
further exploration into the efficiency of more sensitive and modern techniques (digital droplet PCR), is needed to truly understand the applicability, and limits, of a popular yet inadequately validated molecular survey technique.
All About That Acid: The Effects of Soil pH on the Diagenesis of Non-Human Bone.
Robyn Kramer, Anthropology, Texas State University

Problem or research question:
Does soil acidity contribute to the decomposition rates of fresh bone? Do different trees contribute to the pH of the soil surrounding their bases?

Methodology or approach:
I examine how the acidity of different soils affects the transfer of soluble and exchangeable ions (Mg2+, K+, P3+, Ca2+, Na+, Fe2+) between bone and its burial environment. Through the comparison of pre- and post-burial ionic concentrations, I have two objectives: (1) to determine if the acidic soils lead to an accelerated rate of soluble ions available for transfer and (2) if the particular tree and its surrounding soil have a significant effect on the soil pH.

Soil was collected from the base of isolated Pine, Oak, Redwood and Walnut trees and stored in four separate 5 gallon buckets to prevent contamination by foreign substances. Bone (n=84 rib fragments) used in sample was collected from a wild boar donated for research purposes by the California Department of Fish and Game. A thin layer of the periosteum was left on the bones to kickstart microbial activity. Samples were analyzed using the XRF.

Each bucket contained twenty-one fragments; 20 rib fragments. Three holes were drilled into the lids of each bucket to allow oxygen to reach the soil, while also controlling the exposure to the natural elements. The buckets were placed outside in a fenced off area, with equal access to rain, sun and shade. Bone and soil samples were collected throughout the study period.

Results or preliminary results and their impact on the field:
Research of diagenetic changes to bone and sediments is important because it allows researchers to better determine time since death and differentiate between natural and intentional postmortem disturbances that occur after initial deposition. I found that Redwood and Walnut soils exchanged ions (Mg2+, K+, P3+ and Fe2+) at similar rates and in similar amounts because the soils maintained their pH levels over time. None of the soil samples were found to be highly acidic; all appeared to be neutral in nature, with some being more acidic than others.

I conclude that I cannot determine if soil acidity has an effect on decomposition because none of the samples were acidic enough to cause a noticeable difference in ion exchange. However, I cannot reject the null hypothesis that the pH of soil will have no effect on the rate of ionic transfer. This is due to the significant F ratios for Ca2+ and Na2+: Calcium produced the following results, $F(7,16) = 22.438$, $p = .000$, while Na2+ had $F(7,16) = 5.269$, $p = .003$. In conclusion, these values indicate that the type of soil does significantly affect the mean exchange of Ca2+ and Na2+ ions.
Living on a prayer? How religiosity and evolution acceptance interact in a Study Abroad program in Cambodia.
Edward Leone & Kristy Daniel

Background:
There have been many investigations into students’ Evolution Acceptance using the Measure of the Theory of Acceptance of Evolution (MATE). Unfortunately, most of these studies do not include student perspectives from Southeast Asia. Southeast Asian countries, such as Cambodia, have different religious demographics than much of the rest of the world, with Theravada Buddhism being prominent. Religion can play a part in students’ evolution acceptance, but there is limited knowledge on varying impacts from multiple religions. Additionally, the number of university students studying abroad is growing each year. Thus, it is important to understand global perspectives on religiosity and evolution acceptance. Past research has shown that students who take part in study abroad programs can experience changes in personal development and intercultural perspectives. For this study, we measured religiosity and evolution acceptance of undergraduate education majors enrolled in a general science course.

Problem or research Question:
The purpose of this project is to compare evolution acceptance and religiosity among three populations of students (US Students, US Study Abroad Students, Cambodia Students).

Methodology or approach:
We compared responses from three groups of students: those enrolled at a US southwestern university; those enrolled in a study abroad program that took place in Cambodia; and those enrolled at a Cambodian University. We had each student complete the Duke University Religiosity Index (DUREL) and MATE at the end of their general science course.

Results or preliminary results and their impact on the field:
We identified a pattern in religiosity among our student groups with US students showing highest scores of religiosity across all factors (and a total mean score of 19.63); Cambodian students showing the lowest scores (mean score of 12.50); and study abroad students showing intermittent scores (mean score of 16.00). We also compared individual student responses of 5 items on the DUREL, total DUREL score, and total MATE score using a Pearson’ correlation test to identify significant differences among groups and factors. No significance difference was found, but strong patterns emerged between. Our findings support the idea that differences in dominant religions in varying regions are reflected in the ideas held by students from those areas. Additionally, these ideas are exposed to students as they study abroad and reflected in their responses.
Women of Color on Television
Dylan Lochridge-Fletcher, Mass Communication, Texas State University

Problem or research question:
Historically women of color in mass media have been stereotyped onscreen as one-dimensional. Black women are stereotyped as loud, dumb and obnoxious among other characteristics. Latina women have been stereotyped as sexual objects and Asian women are stereotyped as foreign and smart. These women are not given the opportunity to grow and be showcased as more than their stereotypes. Mass media hardly allows for these women to succeed on screen. The gatekeepers of the media allow these stereotypes to influence viewer’s perceptions.

Methodology or approach:
The researcher will perform a content analysis of three television shows on air currently: 1.) Bones, 2.) Empire and 3.) Jane the Virgin. These shows will be reviewed in regards to the Social Cognitive Theory.

Theory:
Social cognitive theory is the idea that people learn by observation. As the audience views television that doesn’t showcase women of color in lead roles or these women of color in stereotypical roles, they learn by association that this is way things are.

Results or preliminary results and their impact on the field:
The impact of my study will bring awareness to the lack of positive women of color in lead roles and hopefully will encourage change on network television. Women of color are largely invisible and those who are visible are vastly stereotyped.
Saenger Pottery Works: Preliminary Report, Unlocking a town’s history through their pottery

Elizabeth Long, Anthropology, Texas State University

Problem or research question:

What is the historical significance and role of the town of Elmendorf in the development of San Antonio, Texas and the state of Texas as a whole? What is the size, form and function of the pottery being produced at this pottery production site, and what does it tell us about the population of the town and the surrounding areas?

Methodology or approach:

Historical Cultural Relativism. Reconstruction of history based on material remains and written records. Sample Selection: use previously collected material and newly collected material. Sample Sizes: based on the number of previously collected materials and newly collected materials. What I am looking at: Ceramic pottery sherds’ rim diameter, base diameter, thickness, glaze typology, lid diameter, provenience and provenance.

Results or preliminary results and their impact on the field:

The size, form, and function variability can tell us a great deal about the pottery being produced, the techniques they used, and what forms were preferred over others. This information tells us about the people who were making the pottery and their skill level. In addition, it provides us information about who was buying it, and what forms were important to them. It helps us understand the people making the pottery and the people who were buying. It tells us about the culture at the time it was being produced. The pottery sherds collected from the site can be dated based on makers’ marks and stylistic attributes, in addition to knowing the years of operation of the kiln. This collection dates c.a.1886 through 1915 C.E. Saenger Pottery Works was in operation from c.a.1885 through 1915 C.E. The owner of the site in the records from Ms. Greer at the time of her research (1966 C.E.) was Alamo Clay Co. Inc. The collection section studied is un-provenienced, and not part of the larger Greer collection stored at The UTSA Center for Archaeological Research. The sherds can be given provenience, but not provenance. The types of stoneware produced there cannot at this time be determined with accuracy. This portion of the Saenger Pottery Works Collection is attributed by markings on the pottery that indicate that it is from Sanger Pottery Works site in Elmendorf. Saenger Pottery Works was established in 1885 by Frederick W.M. Saenger. It is the only location in Texas to use the flood plain clay washing technique. The intended function tells us what the producers of the pottery had intended for their work when it was finished. The variability here suggests that the production from this particular kiln site may have been meant to be primarily storage vessel construction and sale as well clay brick. Research is ongoing.
The Effects of Climate Change on the Occurrence of Favorable Breeding Conditions for the Endangered Houston Toad (*Anaxyrus houstonensis*).
Andrew MacLaren, Shawn McCracken & Michael Forstner, Aquatic Resources, Texas State University

**Problem or research question:**
Houston Toads seemingly select for a suite of optimal environmental conditions in which they choose to breed. Only recently statistically rigorous analyses have revealed the nature of this behavior, detailing much more precise environmental conditions required by the species for chorusing. Continued changes in the Earth’s climate may reduce the number of occurrences of those precise conditions within a given breeding season. This study aims to investigate whether the number of spring (Jan-June) nights with suitable breeding conditions has experienced a decrease throughout recent history.

**Methodology or approach:**
Environmental conditions conducive to breeding were established based on several years of spring-annual surveys for male chorusing events correlated with measurements of ambient air temperature, relative humidity, wind speed, barometric pressure, moon illumination, and precipitation. Historical patterns for each of these environmental variables can be gathered from public sources. Contrasting recent conditions to historical data enables us to detect the number of occurrences of these favorable conditions that occurred when complementary breeding assessments were not feasible.

**Results or preliminary results and their impact on the field**
Preliminary findings indicate that in recent years the numbers of potentially favorable occurrences are not linear. That is, chorusing activity is not steadily increasing or decreasing, but rather it varies in response to climatic conditions. Such information is applied to enable our understanding of whether the critically small populations of Houston Toads left on the landscape have declined precipitously as a consequence to a reduction in favorable climatic conditions.
Politics in 2016: The Significance of Political Entertainment and Media Tongue-in-cheek Portrayals
Jose Martinez, Mass Communication, Texas State University

Problem or research question:
This year’s presidential primary campaigns brought us an unprecedented amount of user-based interaction and insight to our candidates. Social media outlets such as Twitter and Snapchat are being utilized to not only reach out to potential voters but to create a buzz and interest in American pop culture as we know it. As a side effect of this we have seen many discussions and topics of interest in the media being dominated not by foreign policies or diplomatic agendas but instead by tabloid headlines and passive aggressive mudslinging. As a result public interest is at an all time high. My research question is has this unconventional political season ultimately helped or hurt the integrity of our presidency.

Methodology or approach:
A mass multiple choice survey will be sent out to a random sample of Texas State enrolled students in the Fall Semester of 2016. I will aim to gauge trust and opinions among students regarding this political season as a whole.

Results or preliminary results and their impact on the field:
Because this is a very current topic not much research has been conducted outside of census surveys and personal interviews among journalists over the last year. I will hope to break new ground and begin an educated discussion on what I believe to be a pivotal moment in our nation’s history.
All Dolled Up: Female Athlete Representation in Sports Illustrated Magazine
Research
Jeff McDaniels, Mass Communication, Texas State University

Research has shown that media coverage of female athletes is lacking compared to their male counterparts. Many portrayals of female athletes depict them as “dolled up,” focusing on their femininity and sexual appeal. The female athlete “game face,” compared to male athletes, is rarely shown on an advertisement nor is it the focus of sports articles. The purpose of this study was to analyze the lack of coverage for female athletes, the difference between male and female athletes features, and the male role in sports media. Research has shown that the lack of coverage of female athletics has continued to be a problem in media. Female sexual worth and physical beauty are still seen as more important than their athleticism. Archived issues of Sports Illustrated were used as the basis of the analysis of female athlete representation in media. Sports Illustrated is the most recognizable sports magazine in our country and covers all major US sports. For the analysis, the research focused on three primary elements: the setting of the shoot, was the athlete depicted on the field of play or in a setting more associated with fashion shoots?; was the athlete wearing her uniform or was she dressed in more feminine clothing?; was the athlete shown on the field of play as she would look in a game or was the shoot altered and glamorized? The research also looked female athlete presence in advertisements within the magazine and the articles written them in each issue. Preliminary results indicate that there is a disparity of media representation of female athletes in the pages of Sports Illustrated magazine and that it shows a disparity between female and male athletes.
Energy Efficiency Assessment at Texas State University
Milad Mohammadalizadehkorde, Sustainability/Sociology, Texas State University

Texas State University is committed to a responsible use of energy as stated in Texas State University Plan 2012-2017. Furthermore, State of Texas Senate Bill 898 mandates a goal to reduce electrical consumption throughout the university by at least 5% each year for 10 years, beginning September 1, 2011. Texas State University has exceeded this annual goal of the Senate Bill on total campus electricity consumption per gross square feet (GSF) basis for the fourth consecutive year since 2012.

The intent of this energy efficiency assessment is to provide action items for campus buildings in achieving additional reduction in the use of electricity. In the past 18 years, university enrollment has recorded a steady growth in the numbers of students. According to the Texas State University Office of Institutional Research, the quantity of enrollments for the fall semester increased from 27,485 in 2006 to 37,979 in 2015. Registering a gradual growth in the university enrollment does not necessarily mean a higher level of energy consumption. But, continued and significant growth together with infrastructure modifications and new constructions with a 5.7% net increase in GSF during the past four years demand an extensive energy conservation and information plan to achieve energy savings opportunity.

The sample size used in this study includes 13 buildings across the main campus with a higher than average level of electricity consumption. Total electricity consumed by these facilities reaches 80,180,457 kWh, which means $6,414,436.56 of cost in a fiscal year 2014-2015. The primary building activity (classroom, labs, residential, office, and health care) has been considered in the process of sampling in order to select a significant variety of buildings and determine the baseline of Energy Utilization Index (EUI). This approach will provide the possibility of conducting a comparison between the CBECS 2012 report and actual energy consumption of each building.

After determining the baseline for the sample buildings and surveying the buildings equipment the recommended energy efficiency measurements include replacement of current lighting system, motors, pumps and the installation of variable frequency drives and on-site solar panels. The approach/methodology consists of a financial analysis with a cash flow model, which calculates the amount of energy saved in case of the implementation of suggested energy efficiency measures, the quantity of emissions avoided, the net present value, the payback period, and other important factors in environmental and financial analysis. The identified projects, once implemented, can save 17% on annual energy costs for Texas State University.

1 Goal 5.13: Ensure regulatory compliance, environmentally responsible and sustainable practices and the efficient use of energy and water resources.
2 Taken from the Sustainable Stewardship Program presented by Sheri Lara, Director of Utility Operations at Texas State University.
3 This data is provided by University Enrollment Explorer which allows to explore information related to all students or selected groups: http://www.ir.txstate.edu/ir-self-service/self-service.html
4 The Energy Utilization Index determines the amount of energy used based on a square foot.
5 Commercial Buildings Energy Consumption Survey is provided by U.S Energy Information Administration. This is a national sample survey that collects information on energy usage including consumption and expenditures. Tables C21 and C14 have been used to determine the baseline of electricity consumption at Texas State University.
Music as a Memory Enhancer for General Content Information
Katherine Mooney, Andrew Santana & Rebecca Deason, Psychological Research, Texas State University

Problem or research question:
Popular belief holds that setting information, such as the U.S. states, to a musical melody can improve memory for that information. Empirical studies examining this music-enhancing effect have been mixed, but Simmons-Stern et al. (2012) suggested that music might more effectively enhance memory for general content rather than more specific information. The current study extends these findings by examining whether musical encoding enhances recognition memory for pictures related to the general content of novel lyrics.

Methodology or approach:
First, participants listened to 100 novel lyrics (half spoken, half sung). In the subsequent test phase, participants made old/new judgments about 200 pictures (old: 100 pictures related to the lyrics heard previously, new: 100 unrelated pictures).

Results or preliminary results and their impact on the field:
Memory performance was significantly enhanced for pictures related to the sung lyrics compared to the pictures related to the spoken lyrics. These findings provide further evidence that music can be used to enhance memory for general content information.
Ghosts in the marsh: Determining the Status of the Eastern Black Rail in Texas
Amanda Moore, Clay Green, Floyd Weckerly & James Tolliver, Aquatic Resources, Texas State University

Problem or research question:
Secretive water birds like Black Rails (*Laterallus jamaicensis*) are poorly understood in terms of habitat requirements, distribution and population abundance throughout North America. Although they are listed as a species of highest conservation concern on Audubon's Watchlist and their IUCN conservation status is Near Threatened, the species has no special protection in Texas and very little is known about the population status and distribution of the Black Rail in the state.

Methodology or approach:
Our studies will provide the needed information to assess resilience and redundancy of Black Rails in Texas, information that is needed for a Species Status Assessment (SSA). Our efforts will include determination of peak calling period(s) through acoustic monitoring (ARUs), the use of call play-back survey data and accompanying vegetation analyses to create species distribution models, radio telemetry studies to determine home range/movement, and determination of over-winter/survival of Black Rails by banding across seasons.

Results or preliminary results and their impact on the field:
The impact of our work will be to make quantitative estimates of Black Rail resilience and redundancy which will allow an informed determination of whether Black Rails are threatened or endangered along the Texas coast and to guide future management of the species in Texas.
Atti
tudes toward Emoticon Use in the Workplace
Melanie Morales, Mass Communication, Texas State University

Emoticons have evolved in technology communication over the years. From text messages, to instant messengers, to social media, to personal and professional emails, users can customize their message with their own emoji. With emoticons offering a visual addition to a user’s text, the receiver of the message is able to decipher his or her message in another way. This text and visual combination have become more pervasive in the workplace as employers utilize instant messengers systems such as Skype for Business. This research explores specific attitudes professionals have when users send messages with emoticons. Whether it is negative, positive, or a neutral perception, this study looks at age and technology usage to see if there is correlation between these criteria and their attitudes. It examines the different hierarchies of employee interaction such as supervisor to supervisee and peer to peer. To obtain this information to better understand the attitudes and perceptions of emoticon use in a professional setting, this study conducted a survey and focus group. The survey sought to find any connection with user demographics and technology usage; the focus group provided qualitative feedback from supervisors and peers, in a separate setting, to discover their attitudes and beliefs toward using emoticons in the workplace. As prolific as emoticons have been in technology to accompany and/or replace words, this research provides insight into how employers view this type of communication in a professional setting.
Internet Video Content and the Elements that Affect its Virality

Paul Moreno, Mass Communication, Texas State University

Problem/Research Question:
We live in a time period where information is shared from user to user at extremely fast rates across the web. What are the factors that cause internet content, specifically viral video, to be shared and viewed repeatedly?

Methodology and Approach:
Previous research focused on how something reaches virality, but it didn’t answer the why. The why is the area in which this research was aimed, to identify why people choose to view and share the same video repeatedly in terms of content. This research focuses on similarities and differences between viral videos. There are multiple platforms for videos to be shared on, which lead to ordinary videos being viewed millions of times. Social networking plays a large role in why these videos are viewed at high rates. Platforms such as Facebook, Twitter, and Instagram allow users to upload their own videos, or share videos by others to their own followers with a click of a button. User to user sharing allows for videos to be viewed by large audiences with minimal effort. There are four factors identified in previous research that are necessary for users to view and share videos. First, the video must be memorable. Second, there must be a structure of underlying digital network. Third, there must be word of mouth pressure described as the behavioral characteristics of those influenced and willingness to share the message. Lastly, there must be a seeding strategy, which determines the initial set of targeted consumers. Using content analysis this research identified four unique elements and patterns focusing on the content’s appeal to nostalgia, the use or reference to a celebrity, reference to a major current event, and use of humor.

Results or preliminary results and their impact on the field:
With content sharing and virality it’s imperative for producers of Internet content to understand what drives people to share these items. This will be help with marketing, while allowing people with a message to develop an effective way to share their work.
Students Attitude towards Mathematics
Jonah Mutua, Developmental Mathematics, Texas State University

This study attempted to examine if there is any relationship between students’ attitudes towards mathematics and their midterm scores in mathematics. Students’ attitude towards mathematics affects how they overcome challenges and their ability to adopt to changes in learning mathematics. For example, a student with a negative attitude towards mathematics will tend to give up easily, is less motivated to try new methods of solving mathematical problem(s) and may be reluctant to seek help. On the contrary, students with a positive attitude towards mathematics are self-motivated, they are likely to attempt numerous problems to improve on their speed and/or accuracy in solving mathematical problems and they willingly seek help whenever needed. This study attempted to answer the following questions: What is the relationship between students’ attitude towards mathematics and their midterm scores in mathematics? How does a student’s gender moderate the relationship between the study’s predictors (I like mathematics, I value mathematics, confidence in doing mathematics) and outcome (midterm score)?

The operant conditioning learning theory guided this study. According to Bramlett and Herron (2009) the operant conditioning learning theory students’ behavior (attitude) is modified through the use of positive or negative reinforcing. Bramlett and Herron (2009) found that when students in developmental mathematics courses interact with “role models” who are perusing a major in Science, Technology, Engineering, and Mathematics (STEM) on a regular basis (weekly or monthly) they tend to appreciate mathematics more, devote more efforts in understanding concepts and in completing homework on time. The interactions could occur in an informal setting for example in mathematics learning center or in a formal setting like attending workshops. In the process students develop positive attitude towards mathematics.

Participants for this study were drawn from a Historically Black University in Central Texas. A total of 65 students participated in the study, 34 (52.3%) were male and 31 (47.7%) were female. All participants were freshmen enrolled in developmental mathematics courses. The average age of freshmen students at this institution is 18.5 years old. Students’ participation in the study was voluntary. The study sample was random and representative of the student body in this university. A survey instrument was used to gather data from students for this study. The survey instrument was adapted from the Trends in International Mathematics and Science Study (TIMSS) 2011 report. The TIMSS report is a series of international assessments of the mathematics and science knowledge of students around the world. The multiple regression data analysis technique was used to analyze data for this study. The dependent variable was students’ midterm scores and the means of the following constructs were the independent variables: I like mathematics, I value mathematics, confidence in doing mathematics and students’ gender. The Statistical Package for the Social Sciences software was used for data analysis. The R squared value was 13.7% and p < 0.05. The “mean of I am confident in doing math”, p < 0.05. Students’ gender was not related to students’ performance in midterm, p > 0.05.
References:

Analyzing Students’ Errors in Solving Fractions
Jonah Mutua, Developmental Mathematics, Texas State University

A decade ago enrollment in remedial mathematics classes in postsecondary institutions was meant for adult students rejoining college after a prolonged period (five or more years) of absence. These students required remedial courses to refresh their mastery of the basic subject content before enrolling in college credit courses. However, in the recent past the trend has drastically changed. Nearly 70 percent of all freshmen require a remedial course in at least two subjects (Bailey, 2009). The majority of students in remedial courses are enrolled in at least one mathematics class (Bailey, Jeong, & Cho, 2010). Proficiency level in mathematics is low in numerous course content. An overwhelming majority of these students struggle with fractions. Students’ mastery of the procedures necessary for solving fractions is relatively better than their conceptual understanding of fractions. Poor understanding of fraction concepts presents a major obstacle to students’ ability to pass college algebra and other advanced mathematics courses (Bailey, 2009). In this case study, I sought to access the proficiencies of three students in my remedial mathematics class on their procedural and conceptual abilities. Students’ procedural understanding of fraction was accessed by observing students solve three fraction problems. Students’ conceptual understanding of fractions was examined by asking students to explain each step of the solutions. The study took place at a Historically Black University in Central Texas. Study participants were chosen randomly and based on their willingness to participate in the study. The study participants were a fair representation of the composition of a typical introduction of college algebra class at this university. Each student solved and explained three fractions problems. The fraction problems solved by students in this study were obtained from an introduction to college algebra textbook and previous exams. To ensure a fair comparison between students’ performance all three students solved the same problems. Additionally, I ensured there was no sharing of the study information among study participants when the study was in progress. The problem solving sessions were followed by a brief interview, where each student explained their strategies on how they solved the problems. This study was guided by the procedural and conceptual knowledge theories. According to Lin (2010), procedural knowledge can be defined as the necessary steps required to solve problems. Lin (2010) further mentioned that students frequently memorized rules, acronyms or useful sequences of actions which they apply to solve mathematics problems. Fazioand, Lisa & Siegler (2011) defined conceptual knowledge as, knowing why, showing understanding and the ability to sequentially explain why rules or procedures applied in solving fractions result to correct solutions. Pictorial images of students’ solutions, recorded and transcribed interviews responses were used to collect data which was later analyzed and informed the findings of this study. None of the students got a perfect score. Two students got 2/3 of the questions partially correct but they lost points because they could not explain their work besides quoting acronyms they learnt in high school to justify their work.
Eight International Research Conference for Graduate Students

References:


Do students want to use social media? Assessing students’ perceptions of social media in the classroom
Zachary Nolen, Kristy Daniel, Karina Salinas, & Karen Alvarado Rodriguez, Aquatic Resources, Texas State University

Social media has become a major part of everyday life. Despite numerous studies on social media in other fields, few have investigated social media in science education. None have investigated how students perceive the use of social media in the science classroom. Limited existing research draws on the assumption that students hold a positive view of using social media.

Research Question:
The goal of this investigation was to gather empirical evidence on student perceptions of social media use in science classrooms using the newly developed Perceptions of Social Media Survey (POSMS).

Methodology:
The POSMS is a series of 23 Likert-like questions ($\alpha=0.93$) focused on three factors: Personal Communication ($\alpha=0.67$), Academic Usage ($\alpha=0.94$), and Academic Communication ($\alpha=0.82$). We recruited 189 undergraduate students across three semesters of an introductory science course. After compiling student responses, we ran an ANOVA and found no significant differences between semesters.

Results:
Unsurprisingly, students had a strongly positive score for Personal Communication ($M=4.18, SD=0.81$) indicating that they use social media for personal use and communication. Interestingly, students had a slightly positive score for Academic Usage ($M=3.50, SD=0.84$) and a negative score for Academic Communication ($M=2.05, SD=0.92$). This could indicate that students are open to using social media in their science courses, but they do not want to communicate with their professors and other students through social media.

Implication to the field:
This study provides the much needed empirical evidence to support some prior assumptions about student perceptions of social media use in science classrooms. And, it highlights new perceptions not previously considered. Furthermore, the newly developed valid and reliable POSMS instrument provides a sophisticated way to look at multiple factors of student perceptions on social media use, in turn providing heightened implications for its use in teaching practice.
Bringing Invasive Species into the College Classroom

Kathryn Parsley, Tina Marie Waliczek, Paula Williamson & Florence Oxley, Biology, Texas State University

Research problem:
Negative impacts from invasive species present a global issue. Consequently, invasive species biology has emerged as an important sub-discipline of conservation biology. One of the goals of invasive species biology is to educate the public about impacts and potential management of invasive species.

Methodology:
We conducted a study to determine college students’ knowledge of invasive species. We administered a pre-test to students in the Modern Biology II (BIO 1421), Economic Botany (BIO 3406), Organic Gardening (AG 3308), and Woody Plants (AG 3305) classes at Texas State University as well as Biology Fundamentals (BIOL 1308), Human Physiology (BIOL 2305), and Introduction to Anatomy and Physiology (BIOL 2404) at Austin Community College. One group (n=42) received a lecture and laboratory curriculum between the pre-test and post-test (the lecture and laboratory treatment group), one group (n=105) that received a lecture between the pre-test and post-test (the lecture only treatment group), and one group (n=50) received no instruction between tests (the control group). The lecture and laboratory treatment group (n=42) consisted of the Economic Botany lecture and laboratory sections. The lecture only treatment group (n=105) consisted of Modern Biology sections as well as Woody Plants and Organic Gardening; the control group (n= 50) consisted of Biology Concepts, Human Physiology, and Introduction to Anatomy and Physiology. The lecture curriculum was in the form of a PowerPoint, and the lab curriculum included a case study, a visual aid, and a scavenger hunt to educate students about examples of invasive plant and animal species. We waited a minimum of two weeks between administering the pre and posttest for both groups. We ran paired samples t-test analyses to compare knowledge scores for each individual group, as well as an ANOVA to compare scores between the three groups.

Results and Impacts:
The control group scores were not significantly different (p=0.440) between the pre- and post-test. However, both the lecture-only and the lecture and laboratory treatment groups had scores that were significantly different after receiving the curricula (p<0.001); higher scores indicated more knowledge after treatment. We conducted a one-way between-subjects ANOVA to compare the effect of curricula on student learning about invasive species in no-curricula, lecture-only, and lecture and laboratory conditions. There was a significant effect of curricula on student learning at the p<0.05 level for the three conditions (p<0.001). The groups receiving curricula did significantly better on the post-test than the control group, and the group receiving the lecture and laboratory curricula were significantly different (p<0.001) than the lecture-only
treatment group, with a difference in mean scores for the lecture-only treatment group of 4.11 points out of 15; the difference in mean scores for the lecture and laboratory treatment group was 5.74. This indicates that the lecture and laboratory treatment group did better than the lecture-only treatment group. Our curricula appear to be feasible and appropriate learning interventions, to increase student knowledge about invasive species.
Comparing Language Assessment Outcomes in Bilingual High-Risk Children
Jordan Pickett, Ana Karen Ramirez, Selina Leyva, Maria Resendiz & Reynaldo E. Pina Jr., Communication Disorders, Texas State University

Problem or research question:
Standardized assessments that measure expressive and receptive language abilities in bilingual children are limited to only a handful of valid and reliable tools. Speech-language pathologists have an ethical responsibility to evaluate a bilingual child’s language abilities in both languages in order to obtain the necessary information to provide an accurate diagnosis. According to Roseberry-McKibbin (1995), “SLPs who do not recognize linguistic/cultural differences affecting speech and language may be violating state and federal mandates by mislabeling children as language disordered when these children are merely manifesting language differences.” The purpose of this study is to determine whether a narrative story retell will reveal similar outcomes when compared to a standardized assessment in bilingual high-risk preschool-aged children.

Methodology or approach:
Seven bilingual high-risk preschool-aged children participated in the Multicultural Intensive Speech-Language Therapy Intervention Clinic (MISTIC) for four weeks. The Preschool Language Scale- 5th edition Spanish (PLS-5) was administered according to the test protocol guidelines. Narrative samples were obtained in both English and Spanish using a predetermined script. Data was collected prior to and following the clinic intervention. The Systematic Analysis of Language Transcription (SALT) was used to analyze expressive language components of the narrative samples. Primary expressive measures included: Mean Length of Utterance (MLU), total number of different words, and grammaticality. Pretest and posttest data of respective assessment tools were compared to determine if the children demonstrated similar improvement in expressive language abilities.

Results or preliminary results and their impact on the field:
Participants demonstrated improvement from pretest to posttest according to the PLS-5 Spanish. Additionally, data from the narrative story retell samples yielded specific improvements in the expressive language areas evaluated. The results of this study provide evidence that narrative story retell is an effective assessment tool to measure a child’s expressive language abilities. Analysis of narrative story retells provides an additional reliable assessment method to assess a child’s expressive language abilities. It proves to be an effective tool to supplement standardized testing and to determine improvement as well as areas of need for a child.
References:
Reconnecting Critical Habitat of the Endangered Houston Toad (Anaxyrus houstonensis) with the Installation of Wildlife Corridors
Payton Prather, Shawn McCracken & Michael Forstner, Wildlife Ecology, Texas State University

Problem or research question:
Infrastructure development continues to increase to keep pace with the growth and expansion of human populations. Core infrastructure, such as roads, results in wildlife mortality and continued fragmentation of available habitat potentially creating barriers to gene flow. Artificial wildlife corridors are a potential solution to mitigating wildlife motorist collisions and maintaining habitat connectivity. Such structures are components toward conservation stewardship of both species and landscapes. The Lost Pines region is home to the endemic, and endangered, Houston Toad. These structures serve as mitigation efforts to allow the Houston Toad and other wildlife a safe passage among habitat patches despite barriers to dispersal.

Methodology or approach:
Highway 290 in Bastrop County bisects critical habitat of the endangered Houston Toad. Wildlife corridors have now been installed at locations based on previous data indicating areas of high wildlife traffic. Our study applies a suite of monitoring techniques to determine usage of artificial wildlife corridors along a 12.58 km section of this road. The roadway was divided into two treatments, Construction (roadway expansion area) and No Construction. Monitoring techniques include camera trapping and wildlife mortality surveys (walking and driving). In order to determine usage of these corridors, camera traps were placed at the opening of each culvert. Wildlife mortality surveys along the roadway seek to determine areas of wildlife mortality, and then examine whether mortality decreases or increases post-installation of corridors. A one-way ANOVA was used to determine differences between wildlife mortalities observed during pre-construction and during construction.

Results or preliminary results and their impact on the field:
Preliminary analysis compared wildlife mortality observations found in the construction area during pre-construction and during construction. A total of 46 wildlife mortality surveys with were conducted along the roadway from March 2006 to 2007 (Pre-construction) resulting in 50 mortality observations. A total of 14 wildlife mortality surveys were conducted from January 2016 to August 2016 resulting in 40 wildlife mortality observations. Wildlife mortality observations in the during construction period were significantly higher. This suggests an increase in wildlife mortalities as a result of the roadway expansion. However, current survey methods have an increase in sampling effort compared to the pre-construction survey methods. The increase in sampling effort will allow for a stronger data set to determine if there is any change in wildlife mortalities as a result in the installation of these wildlife corridors. Monitoring these corridors to determine their usage will provide data that both evaluate the
utility of such mitigation methods for species of concern and better define the nature and duration of data useful in determining the best placement of such structures.
Unified Coverage Methodology for SoC Post-Silicon Validation
Karuna Ranganathapura, Semih Aslan & Vittal Siddaiah, Electrical Engineering, Texas State University

The System-on-Chip’s increased complexity and shortened design cycle calls for innovation in design and validation. A high quality System-on-Chip creates distinction and position in the market, and validation is the key to a quality product. Validation consumes >60% of the product cycle. Therefore validation should be carried out efficiently. Validation must be quantified to aid in determining its quality. Pre-silicon uses various coverage metrics for quantifying the validation. The available on-chip coverage logic limits the use of pre-silicon like coverage metrics in post-silicon. Although on-chip coverage logic increases observability, it does not contribute to the functional logic; hence, they are controlled and limited. Discounting the need for the on-chip coverage logic, the question to be answered is - are these pre-silicon coverage metrics applicable to post-silicon? We discuss the reasons for limited applicability of pre-silicon coverage metrics in post-silicon. This research presents a unified SoC post-silicon coverage methodology centered on functional coverage metrics.

The proposed unified coverage methodology centers on data-flow coverage analysis. Figure 1 captures the implementation of this methodology. This solution consists of two main components - the On-chip Data Capturing (ODC) unit and the Off-chip Coverage Analyzer (OCA) software. The ODC designed as an intellectual property (IP) connects to the bus of interest and captures the transactions. ODC communicates the captured data to OCA software through JTAG port. The software processes the received data by applying the rules defined in the protocol definition file. Thus processed data represents the coverage achieved. Application of coverage targets as an input to the OCA will result in accurate coverage calculations. Intuitive GUI presents details of the coverage results with a click on the displayed graph. The details will articulate the different types of transactions generated by the tests and also will highlight the missing data-flows. The validation engineer can then fine-tune the tests to achieve the missing coverage.
Collaborative Execution Methodology and Predictive Modeling
Karuna Ranganathapura, Semiah Aslan & Vittal Siddaiah, Electrical Engineering, Texas State University

This paper is about ways to collaborate perspectives that enable predictive modeling and reduce time and cost to market.

This paper is based on but not limited to the exploration done among various the silicon validation teams. By adopting collaborative execution methodology, the following are few key advantages:

a. Enhances performance by eliminating Latencies.
b. Easily scalable across derivatives.
c. Enables predictable execution.
d. Agile to market or product shifts.

This is only the beginning, the next level of validation is to predict the fault before the silicon arrives. One of it could be from shift-left method, wherein we move the validation cycles to pre-silicon either simulation or emulation. There are known pitfalls in shift-left methodology like cost, availability of accurate models, etc... But in today’s technology of Big Data, wherein frauds and crimes are detected even before they occur, we need to embrace, adopt technology to predict the faults and generate quality validation patterns/content.

Once all the teams are collaborative on a single point of truth (data), all of us are data scientists; we wear a pattern of polarized shades in identifying patterns and swiftly move towards predicting these patterns. Analyzing the primary data from the sensors of execution is only the beginning; we need to leap towards churning the data to next level and start predicting the next level of details.

Prediction is power, Predictive Analytics and Modeling leads within the growing trend to make decisions more “data driven,” relying less on one’s “gut feeling” and more on hard, empirical evidence. We need to enter this fact-based domain and we are already confronted by buzzwords, including Analytics, Big Data, Data Science and Business intelligence. Without collaborative data in predictive analytics, we are missing out on opportunities to drive changes in real-time, analytic-powered decisions based on immediate dynamic objectives. But now we collaborate to leave the world better than we found it. In this article we consider silicon validation and we can expect at least 3x reduction in cost and 2x improvement in the time to market.
Development of a Paper-Based Lab on a Chip Device for the Detection of Diarrheal Diseases
Kshitij Ranjan, Zhenyuan Lu & Shannon Weigum, Aquatic Resources, Texas State University

Problem or research question:
According to Centers for Diseases Control and Prevention, diarrheal diseases or gastroenteritis kill about 2195 children everyday world wide. Diarrheal diseases affect both adults and children, but the mortality rates in children are much higher because of their immature immune system. Diarrheal diseases can be caused by a number of pathogens including viruses, bacteria, and protozoa. Rotavirus and Norovirus have been identified as the most common groups of pathogens to cause diarrheal diseases in children and adults respectively. People living in underdeveloped countries are especially prone to diarrheal diseases due to poor sanitation and inadequate medical facilities. In 2013, the total number of deaths due to diarrheal diseases was estimated to be 1.26 million. Expensive laboratory equipment and trained technicians are usually required to correctly diagnose the disease. This remains a major hurdle for prescribing the correct medication to patients in poor countries where these facilities are not easily available in a timely manner.

The objective of this project is to develop a fast, cheap, and point of care diagnostic platform for the detection of diarrheal diseases. This platform will not only ensure a quick and accurate diagnosis of the disease, but it will also be available at point of care without the need for trained personnel to conduct the testing.

Methodology or approach:
Nitrocellulose membrane, sampling pad (glass fiber), and an absorbent pad (cellulose) will be used to assemble a 3D-microfluidic channel device. This Laminar Flow strip will allow the cocktail of gold nanoparticles, detecting antibody, and the viral particles to flow and interact with the anti-norovirus antibody which is already imprinted on the strip. This interaction will form an immune complex which will appear as a distinct pink signal on the white background (which can easily be seen by naked eyes) of nitrocellulose membrane indicating the presence of Norovirus in the sample.

Results or preliminary results and their impact on the field:
A number of assay conditions like drying conditions, concentration of gold nanoparticles and antibodies, buffer compositions, surfactant selections, concentration of capture antibodies have been optimized. Norovirus, which is main cause of gastroenteritis outbreaks was detected using our method. The virus was visually detected at 1pM.
It takes two to tango: Analyzing long-term banding data of Reddish Egrets in Mexico and Texas in regards to survivorship and movement

Rebekah Rylander, Clay Green, Eduardo Palacios & Adam Duarte

Problem or research question:
Understanding a species’ movement behaviors and apparent survivorship during different age classes is critical when developing a conservation strategy at local and global scales. Without knowledge of the species’ life history in regards to such patterns, it can be difficult to create an appropriate management plan across and within its range, especially if the species in question travels great distances. The Reddish Egret (*Egretta rufescens*, REEG) is a medium-sized heron that displays plumage-dimorphism (dark and white). Its range is along the coast of the Gulf of Mexico, Pacific coast of Mexico, as well as portions of Central American and the Caribbean islands. The primary objective of this research was to estimate survivorship of juvenile REEG through long-term color banding, as well as analyze the movement ecology of individually marked birds across Texas and Mexico.

Methodology or approach:
During the breeding seasons between 2006 - 2016, we color banded REEGs in Texas/Tamaulipas (n=627), Yucatan (n=105), Chiapas (256), and Baja California Sur (n=220). Using Cormick-Jolly-Saber models in Program MARK, we analyzed the apparent survival and recapture probabilities between color morphs (dark and white), age classes, and the four target breeding regions mentioned above. We also used this data to look at movement patterns among and within the four regions.

Results or preliminary results and their impact on the field:
Even though only 62 resightings were made between 2006 and 2016, there was variation in movement among individual birds and within different regions. Our results also suggest that hatch year REEGs have a lower apparent survival rate (0.25 in Texas, 0.51 in Baja) than older birds (0.86 in Texas, 0.91 in Baja), which leads us to believe that this life stage is possibly a limiting factor on the growth of the population across its range. Therefore our research targets the importance of long-term color banding, yielding to considerable insight on survivorship and movement of a species. As more band-resight data is gathered, our ongoing research of REEG will hopefully contribute to the conservation of one of North America’s rarest herons.
Introductory Physics Students’ Epistemological Resources
Erin Scanlon, Developmental Education, Texas State University

(b) A qualitative investigation was conducted of the epistemological resources employed by introductory physics students while solving physics problems in groups. The long-term goal of this line of inquiry is to determine the mathematics-specific and physics-specific epistemologies of students taking introductory physics courses. Students’ personal epistemologies were theorized using the Epistemological Resources theoretical framework (Hammer & Elby, 2001). In this framework, epistemological resources are fine-grained pieces of cognitive structure whose activation and/or inhibition are determined based on prior experience and these resources color how a person views knowledge in the world around them. The purpose of this study was to identify the resources employed by introductory physics students and the associated usage patterns of these resources.

(c) Audio recordings of introductory physics students solving problems in a classroom setting were the main data source for this study. The epistemological resources employed by students while solving physics problems were identified using emergent coding and by implementing an operationalized coding scheme from Jones (2015).

(d) Twenty-five distinct epistemological resources were identified such as Peer Cognitive Awareness, Mathematical Reasoning, Invoking Authority, and If It’s Given It Must Be Used. Students were categorized into groups based on their previous number of mathematics and physics courses completed. Differences between these groups were found in terms of the epistemological resources employed and their usage patterns. Future research will focus on teasing apart the source of the group difference as well as the effect of the different physics problems on student resource usage.
Problem or research question:
This research aims to find out how Instagram is used by companies when communicating with their audience. Instagram is an interesting form of social media because it relies heavily on visuals to grab the attention of others before reading any text. Since most companies use social media, a lot of companies jumped on to Instagram when it started becoming popular. The difference between Instagram from Facebook or Twitter is Instagram is made to share photos and videos and not only text statuses. Because of this it makes communicating to customers different than it would from other social media sites.

Methodology or approach:
The literature review will research how companies have integrated social media into their communication with their customers. It will not only look into Instagram but Facebook and Twitter as well. I’m hoping to find material on how companies use social media to help with advertising, promoting their products and services, and how it has positively impacted customer service. Once I find out what the research says about how companies use social media sites to communicate with their audiences better I want to focus on Instagram specifically. I want to do a content analysis on different companies and how they use their Instagram accounts. I plan on picking big name companies and also start up companies to see the differences they may show.

To also understand if their Instagram accounts are affective I want to conduct a survey asking basic questions of what companies people follow on Instagram, how often do they look at companies’ Instagram accounts, and have they actually purchased a product or service because they saw it on Instagram. This will be enable me to tie everything together. Not only will I be able to research how companies use social media, and how they use Instagram specifically, but I can also see how it affects the people who use Instagram, if it does.

Results or preliminary results and their impact on their field:
This research will help understand the impact social media has on the business world and how companies can communicate with their audience. It will also show how visuals alone, since Instagram relies heavily on images and videos, can affect the communication between business and customer and whether it is effective or not.
Engagement of student parents in community colleges: Challenges and opportunities
Maureen Schaetz, Tahir Ekin, Li Feng, Jennifer Beck & William Chittenden, Business Administration, Texas State University

Problem or research question:
Are there differences between traditional students and students with dependents in the factors of student achievement?

Methodology or approach:
This research project proposes to use data collected from the Community College Survey of Student Engagement (CCCSE) to provide summary statistics, correlation tables, and a statistical model to explore specific differences in academic engagement between students with dependents and those without.

Results or preliminary results and their impact on the field:
Many colleges are not aware of how many of their students are also raising dependents. The Institute of Women’s Policy Research has tried to project the quantity and characteristics of student parents across the nation through data from the National Center for Education Statistics (NCES). This study is leveraging access to over 105,00 responses from students in community colleges in 46 out of the 50 states to support this effort and help paint an accurate picture of American student parents.
One interesting data point that has been uncovered is that 36% of student parents are of traditional age. The assumption that students raising dependents are also of nontraditional age (18-24) is incorrect, and can leave a large group of student parents unsupported. It has also been found that 44% of student parents are first generation; which is a group that has already been identified as needing extra attention to help support these students through college. Another assumption that has been proved wrong is that most student parents have the support of a significant other while balancing school and family. This study has uncovered that actually 60% of student parents are single- and 73% of those single student parents are women.
The findings concerning financial funding have the most potential to be able to impact the field. Student parents are significantly more dependent on grants and student loans to get through school; both factors that are controlled by policy decisions.
How do Language and Modality Influence the Major Goals Teachers of the d/Deaf (DHH) Have When Reading Books Aloud to Prereaders?
Amy Louise Schwarz, Jennifer Guajardo & Rebecca Hart, Communication Disorders, Texas State University

Problem or research question:
Scholars suggest that teachers of DHH prereaders have different goals for reading books aloud based on the primary communication mode used in the children’s educational placement (e.g., Andrews, 2012; Williams, 2012). Teachers who use American Sign Language (ASL) are supposed to translate storybooks into ASL to convey ASL storytelling conventions (e.g., Nover & Andrews, 1998). Teacher who use only Spoken English (Oral) and teachers who use simultaneously spoken and signed English (SimCom) are supposed to view read alouds as emergent literacy activities and use strategies suggested for general education teachers (e.g., Andrews, 2012; Williams, 2012). No empirical studies exist that observe how primary communication mode influences the major goals teachers of DHH prereaders have when reading books aloud. To address this gap, we asked 85 experienced (2+ years) teachers of DHH prereaders to write their goals for read alouds as part of a large-scale preliteracy study. Research Questions: (1) What were the key content words written by each group of teachers (16 ASL, 32 Oral, 33 SimCom) when stating their goals for read alouds? (2) What are the patterns of similarity and dissimilarity among the high frequency content words when compared across groups of teachers?

Methodology or approach:
In Experiment 1, we conducted a content analysis using word clouds of the teachers’ short goal statements (low: 5 words, high: 86 words) after cleaning the data of pronouns, synonymous phrases, and repetitions within each teacher’s goal statement (Weber, 1990). In Experiment 2, we explored the relationship of the key words and teacher groups using multiple correspondence analysis (MCA, Abdi & Valentin, 2007), a fixed-effect multivariate technique appropriate for categorical data.

Results or preliminary results and their impact on the field:
In Experiment 1, our word cloud analysis suggested that the three groups of teachers had different goals for read alouds. In Experiment 2, our MCA analysis determined two patterns in the data that explained 84.79% of the total variance. The major source of variance (68.42%) is explained by differences between ASL and Oral teachers. The unique aspects of the ASL teachers’ goal statements were to build DHH children’s ASL skills and their love of books. The unique aspects of the Oral teacher’s goal statement was to build DHH children’s oral English skills by focusing on vocabulary, asking questions, and sequencing story events. The second
major source of variance (16.37%) is explained by differences between ASL and SimCom teachers. Many ASL teachers focus on the plot while many SimCom teachers focus on pictures. Our study is the first to demonstrate that ASL and Oral teachers have different goals for read alouds while SimCom teachers have goals that overlap with the other two. We are concerned that SimCom teachers did not mention exposure to syntax as a goal and will explore this issue in future studies.

References:


How do Language and Modality Influence the Read-Aloud Behaviors of Teachers of d/Deaf & Hard-of-Hearing (DHH) Prereaders?
Amy Louise Schwarz, Jennifer Guajardo & Rebecca Hart, Communication Disorders, Texas State University

Problem or research question:
A major obstacle facing teachers of DHH students when conducting read alouds is knowing how to read books effectively based on the primary communication mode used in children’s educational placements (e.g., Andrews, 2012; Williams, 2012). The major communication modes are American Sign Language (ASL, 15% of DHH students), spoken English (Oral, 67%), and simultaneously spoken and signed English (SimCom, 13%) (Gallaudet Research Institute, August, 2013). No empirical studies exist that directly compare how primary communication mode influences the read-aloud behaviors of teachers of DHH students. To address this gap, we asked 85 experienced (2+ years) teachers of DHH prereaders to complete a survey that was part of a large-scale preliteracy study. Research Question: What are the patterns of similarity and dissimilarity among (a) the three groups of teachers (16 ASL, 32 Oral, 33 SimCom), (b) their reading behavior (read almost every word, rely mainly on illustrations), (c) their education, (d) their teaching experience, (e) their work setting (public, private, state school), and (f) their membership in Deaf Culture.

Methodology or approach:
We explored the relationship of the variables using multiple correspondence analysis (MCA, Abdi & Valentin, 2007), a fixed-effect multivariate technique appropriate for categorical data. MCA determines major sources of variance by creating new variables (called factors) based on the relationship between the original variables and the variance among individual participants. These new variables are plotted on maps. Variables plotted close together are highly correlated while variables plotted far apart are not correlated.

Results or preliminary results and their impact on the field:
Two patterns in the data explained 88.68% of the total variance. The major source of variance (67.15%) is explained by differences between ASL and SimCom teachers. ASL teachers with lots of experience (13 to 18 years) and an advanced degree tell the stories using mainly the illustrations. SimCom teachers with a range of experience (5 to 24 years) and a bachelors degree read almost every word of the books. The second major source of variance (21.52%) is explained by differences in teaching experience and modality. Many of the oral teachers generally had less experience (2 to 7 years) than the teachers who signed (19 to 24 years). Interestingly, the oral teachers were divided in how they read books to DHH children, with 52% telling the story using mainly the illustrations and with 48% reading aloud almost every word of the text. Research from the field of oral foreign language interpreting indicates vocabulary and syntax are both
compromised when a message is paraphrased (Christoffels & De Groot, 2004). We are concerned that oral teachers may be providing DHH children with overly simplified models of English vocabulary and syntax by paraphrasing books. Future studies will examine the level of English language input oral teachers provide when paraphrasing books compared to reading almost every word in books.

References:


Campus Carry Policy: A Descriptive Study of Perceptions of Students, Faculty, and Staff at Texas State University
Luke Scott & Nandhini Rangarajan, Public Administration, Texas State University

Problem or research question:
Violent shooting episodes on school and college campuses such as the Columbine high school massacre in 1999, the Virginia Tech shooting in 2007, and Sandy Hook in 2012 have led to a continuing debate on concealed carry laws. On June 13, 2015 Governor Greg Abbott signed into law SB 11 which gives license to carry holders the right to carry their firearms on campuses of higher education. Texas State University’s adoption of this policy was effective August 1 2016. Although there is scholarly work on the perceptions of university constituents, such as students, faculty, and staff, to our knowledge, these have not been conducted at a campus that actually allows for individuals to carry concealed handguns. The few studies that have indeed been conducted on university populations, have only targeted specific sub-constituents (only females, only faculty, only presidents etc.). This study seeks to understand the perceptions of students, staff, and faculty at Texas State University regarding the “campus carry” policies that became effective August 2016.

Methodology or approach:
A web survey was administered to a random sample of 4000 students, 500 full time faculty members and 500 staff at Texas State University in September 2016. This survey was administered to elicit information about the perceptions of students, faculty and staff on campus safety, psychological safety and academic freedom, freedom to socialize among other things. Completed responses were received from a total of 916 respondents resulting in an 18.32% response rate. Out of the 916 completed responses, 246 were faculty responses, 483 were student responses and 187 were staff responses.

Results or preliminary results and their impact on the field:
Preliminary results indicate differences between the three different groups. Descriptive statistics indicate that 55.7% of faculty members would prefer to repeal the law as opposed to only 20.3% of staff and 18.8% of students. The three groups varied considerably in their perception about armed students, staff, and faculty members promoting a greater sense of campus safety. About 83% of faculty respondents somewhat disagreed, disagreed, or strongly disagreed with the statement compared to only 46.0% of students and 55.6% of staff. Handguns being carried by students made 46.5% of all respondents feel unsafe or very unsafe; handguns carried by faculty made 28.0% of all respondents feel unsafe or very unsafe; handguns carried by visitors made 53.6% of all respondents feel unsafe or very unsafe; handguns carried by staff made 28.6% of all respondents feel unsafe or very unsafe; and handguns if carried by the respondent themselves made 26.7% feel unsafe or very unsafe. About 66% of faculty members and 37.9% of students felt unsafe or very unsafe about students carrying handguns. 21.9% of students felt unsafe or
very unsafe when asked about faculty carrying concealed handguns. 45.9% of faculty respondents felt unsafe or very unsafe when asked about fellow faculty members carrying concealed hand guns. When it comes to perceptions of academic freedom, 32.6% of students, 68.9% of faculty and 36% of staff somewhat agree, agree, or strongly agree that campus carry reduces intellectual freedom on campus. In addition to these univariate statistics, logistic regression odds ratios will be used to assess the connection between personal background characteristics (such as gun ownership, political party affiliation, military or law enforcement background of respondent, victimization status) to the responses of campus carry policy questions to determine predictors of support for these policy issues. Findings from this study have important policy implications that could potentially affect future state level and higher education policies about concealed carry policies, campus safety issues and policies related to safeguarding of academic and intellectual freedom.
Assessment and Intervention for Reading Disabilities: Comparing Service Delivery in the United Kingdom to the United States
Audrey Seguin, Jordan Cason & Courtney Harris, Communication Disorders, Texas State University

Problem or research question:
The purpose of this poster is to compare and contrast service delivery for the assessment and treatment of reading disabilities in the United States and the United Kingdom.

Methodology or approach:
In order to examine the similarities and differences in service delivery between these two countries, literature was reviewed and observational research was conducted.

Results or preliminary results and their impact on the field:
When comparing the assessment and treatment of reading disabilities between the two countries, the differences are minimal. The United Kingdom and the United States both use a multi-assessment approach when diagnosing reading disabilities. However, the assessments used in each country vary based on popularity and availability. Intervention for reading disabilities is also similar, with both countries choosing to target the specific areas of deficit that are discovered during the diagnostic session. Both countries also agree on the most effective approach to use to treat reading disabilities. In contrast, the United Kingdom provides universal healthcare to their citizens, and the United States subscribes to a private insurance model, meaning each country’s intervention plans will be dictated by their prospective health care agencies. By reviewing the assessment process and intervention techniques used in different countries, speech-language pathologists in the United States are able to gain new insight about alternate approaches for the diagnosis and treatment of reading disabilities.
Distribution and Temporal Trends of Western Reef Heron (Egretta gularis) Populations along the Arabian Gulf Coast, United Arab Emirates


Problem or research question:

The Arabian Gulf of the United Arab Emirates contains highly productive mangrove and seagrass habitats that are essential breeding and non-breeding areas for vast numbers of waterbirds. Unfortunately, both mangroves and seagrasses are declining in this area due to anthropogenic disturbances such as pollution, development, and commercial and recreational activities. Due to their dependence on these coastal habitats, waterbirds such as the western reef heron (Egretta gularis) can act as important bioindicators of ecosystem health. The estimated global population size of E. gularis is roughly 10,000 to 100,000 individuals. While populations are considered stable, many important breeding and overwintering areas of the western reef heron remain unprotected.

Methodology or approach:

We performed line transect counts at fifteen sites along the Arabian Gulf Coast of the U.A.E. monthly from 2006-2015. A double observer method was used to conduct point counts along a predetermined route. The data was then compiled for analysis using the program RStudio.

Results or preliminary results and their impact on the field:

Using a mixed effects model, we found that counts varied by both month and year independently, suggesting no interaction between the two fixed factors. Our model analysis also suggested a decline in annual abundance by approximately three birds per year, but lacked statistical significance. We found significant inverse relationships between year and count at the Al Aryam and Abu Al Abyad sites, suggesting annual abundance may be decreasing in these areas. Further research and monitoring of the U.A.E. western reef heron population is recommended due to habitat loss and potential declines of the species.
Viral Advertising: Strategies That Work for Brands
Sara Shields, Mass Communication, Texas State University

Problem or research question:
In a digital age where millions of social media users are sharing viral videos, it’s important that advertisers and marketers have a thorough understanding of which key elements shape a successful viral advertisement. This research helps create an understanding of viral advertising in the form of videos and addresses the key elements that have led to the success of viral advertisements. The central research question was, “What are the key elements that lead to the success of a viral advertisement?” Advertisers and marketers should be interested in following trends and common key elements in video advertisements that have lead to producing viral content. The purpose of this study was to examine key elements in viral videos that will help advertisers and marketers strategize their next viral video campaign.

Methodology or approach:
Using a content analysis on the top 20 viral video advertisements of 2015, 2014, and 2013 from www.adweek.com, specific elements were coded that may or may not be present in the videos or brand, such as: animals, minority, video length, and product presentation. Multiple focus groups were also conducted to analyze elements in videos that are subjective, such as: funny, heartwarming, sad, intimate, etc.

Results or preliminary results and their impact on the field:
The results from this study may give practitioners and researchers an understanding of viral advertisements and some of the key elements that are common in successful viral advertisements. By utilizing the findings from this research, advertisers and marketers may be able to create successful online advertisements at a much cheaper cost than traditional advertisements.
Variation in Reproductive Output of Two Endangered Freshwater Turtles (Batagur spp.) in the National Chambal Sanctuary, India

Shashwat Sirsi, Shailendra Singh, Ashutosh Tripathi, Shawn McCracken, Michael Forstner & Brian Horne, Aquatic Resources, Texas State University

Problem or research question:

Characterizing variation in reproductive output is foundational to understanding the demography of a population and determining management strategies. This is paramount when the species of interest is endangered with extinction. The Red-Crowned Roofed Turtle (Batagur kachuga) and the Three-Striped Roofed Turtle (Batagur dhongoka) both face extinction in the wild due to overharvesting and habitat loss. Despite their conservation status there are few studies on species ecology and life history to enable effective conservation. Additionally, the three published studies were completed three decades ago. Three seasons of field data (2007, 2008 and 2010) from a population supplementation project were used to provide information on temporal variation in reproductive output within and among species thus adding to the level of detail for these turtles in the Chambal River of North India.

Methodology or approach:

Nests were located each season in a section of the lower Chambal using monthly boat-based surveys and daily foot patrols. Date of collection and number of eggs were recorded per nest. Egg lengths and widths were also measured for a subset of nests. Data from daily nest searches were used in the analysis as no gaps occurred in surveys and non-detection of nests were minimized. Generalized linear models were used to determine annual and within season differences in number of nests. Analysis of variance were used to test for temporal differences in number and size of eggs, within and among species.

Results or preliminary results and their impact on the field:

In both species the number of nests showed an overall decline across three seasons (2007, 2008 and 2010) over a four-year duration. Decline in nests may be due to a decline in the nesting cohort or due to variation in patterns of resource availability. Within nesting seasons, the highest number of nests were observed in the middle of the period each year. While the nesting season for both species extends from February to April, peak nesting activity was observed from late February through March, coinciding with lowest river depth or maximum availability of nesting habitat. Reproductive output in both species varied as a function of fecundity rather than egg volume, implying maturity occurs at larger body sizes for egg size to be unconstrained and thus requires relatively long generation times. The study also corroborated previous findings that B. kachuga lays larger and fewer eggs than B. dhongoka. These results contribute to understanding the life history of these poorly documented turtle species and toward informing their conservation policy. Future studies over a larger spatial extent need to characterize nesting sites, nesting site fidelity, and incorporate data from individual females.
But it’s Not Real: Selling Stereotypes through Anthropomorphization
Brandon Spenrath, Mass Communication, Texas State University

The strategy of dividing target markets into subsets of consumers based on identifiable characteristics is paramount to effective marketing efforts. Advertisements for and product designs of consumer goods are rife with visual cues that indicate for whom the product is intended. Overwhelmingly, demographic and social markers such as gender, race, age, etc. are relied upon to segment consumers and drive the market up. Tactics for doing so include a reliance on stereotypical representations of such identifiable markers, the strategic use of color, manipulation of shape and varying portrayals of bodies and environments. Recently there has been much criticism about this practice. What has not received much attention is the application of such strategies to marketing efforts that rely on non-human agents to deliver the messaging. With an evolution in animation and computer generated imagery came an increase in a novel marketing technique, animated anthropomorphization of products and spokes characters. While the anthropomorphization of products and spokes characters is known to be effective, the purpose of this research is to determine if there is a continued reliance on stereotypical representations of and assumptions about targeted consumer populations when the technique of anthropomorphization is utilized and whether or not such stereotypes are evaluated differently due to the non-human agent element. An online survey was conducted in which a series of stereotypical-laden ads were shown to participants in which the spokes person or product was based in reality or the spokes character or product was an anthropomorphized rendering. Participants were asked to provide identifiable demographic and social information and then indicate their reaction to each ad via a series of open-ended questions. Analyses of the qualitative response data are on-going.
An Examination of the Mere Exposure Effect in Relation to the Distractor Devaluation Effect

Katelyn Stephenson & Rebecca Deason, Psychological Research, Texas State University

Problem or research question:

The purpose of this study is to directly compare the mere exposure effect to the distractor devaluation effect and to test if factors known to modulate the mere exposure effect also modulate the distractor devaluation effect.

Methodology or approach:

The mere exposure effect, the tendency to like items that have been previously encountered more than new items, has been explored in great detail in many studies. What seems to be the antithesis to the mere exposure effect is the distractor devaluation effect, which is relatively new in the literature. The distractor devaluation effect states that items people are told to ignore will be subsequently rated more negatively than targets or new items. This study takes a look at both the mere exposure effect and the distractor devaluation effect in order to determine if they really are related or are two separate processes.

Results or preliminary results and their impact on the field:

Results from pilot data show that there is a mere exposure effect seen in words that are rated as more meaningful than words not rated as meaningful.
A Statistical Comparison of Internet Crime among the Generations

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Introduction:

Traditionalists (born 1929-1945), Baby Boomers (born 1946-1964), Generation X (born 1965-1981), and Millennials (born 1982-1999) are four of the generations (Fried, 2015). Among these generations, the Millennials and Baby Boomers are the largest living generations in the United States of America (USA). The Millennials in USA and other nations have grown up with innumerable technological advancements and associated challenges (Fried, 2015). Hence, clearly there is a need to understand the good versus adverse impacts of Internet-based technologic crime among the generations. In this article, we analyze and interpret the recent Internet crimes that occurred in across 51 US States (FBI, 2015).

Research questions:

Why is studying the relationship between Internet crime and affected generation important? Do Internet-based applications have an impact on the nation’s crime rate? Has the government initiated preventive or remedial action plans to successfully stop Internet crime?

Significance of the research:

The Internet-based crime rates, on the contrary, have increased only over the last five years (FBI, 2015). In 2015, Internet Crime Complaint Center (IC3) received over 8000 complaints with a loss of nearly $275 million. Such prevalence of complaints necessitates the importance of finding a solution to the internet crimes (FBI, 2015).

Data variables and linear model statistical methodologies to analyze the data:

For each state in USA, the age and gender of the internet crime victims and how much amount in dollars they lost due to internet crime are available. To analyze this data and capture the trend, we employed the linear model approach. Comparisons among the age brackets, and comparison between male and females in so far as the number of internet crime victims and the per capita lost dollar amounts were made.

Result:

From factor analysis results, victims count and victims reporting loss and age of victims and victim counts were highly significant. On the other hand, the results also revealed that there was no significant difference between the gender and victim counts. Victims under 40-49 years
(Generation X), 50-59 years (Baby Boomers and Generation X), and over 60 years (Baby Boomers and Traditionalist) were most victimized and age groups 0-19 years (Millennials), 20-29 years (Millennials), and 30-49 years (Millennials and Generation X) were least victimized.

**Conclusion:**

From our study, it was identified that Baby Boomers generation were victimized more in Internet crime than Millennials. Baby Boomers are the population who uses secure password; however, they are victimized more in internet crime currently. Hence, more security and monitoring of Internet applications are required to prevent Millennials (largest generation) and Baby Boomers from involving in Internet crime.

**References:**


College Students’ Perceptions of Safety on Campuses with Concealed Carry
John Garrett Tanner, Psychological Research, Texas State University

Problem or research question:
In recent years, several states have implemented “concealed carry” laws affecting public universities, which generally allow for faculty, students, staff, and visitors to carry concealed handguns on campus premises. Past research has largely focused on how students would feel, hypothetically, if such legislation were implemented on their campus. This present study was designed to extend this work by assessing students’ actual perceptions of safety before and after the implementation of campus carry legislation using a quasi-experimental design.

Methodology or approach:
Explicit levels of fear and likelihood of crime were examined in Experiment 1, and implicit perceptions of campus safety were examined in Experiment 2. The main hypotheses are that students at Texas State University will report greater levels of fear in the 2016 semester than they did previously, and that students at a non-Texas university will report no such change in perceptions. The same measurements will be taken from students enrolled at a comparable university where concealed carry is not allowed. Thus, the two main independent variables will be the presence or absence of concealed carry legislation and the time of assessment. Students’ levels of fear and likelihood of crime (assessed via a questionnaire) will be the main dependent measures in Experiment 1, and students’ implicit attitudes about campus safety (assessed via the Go/No-Go Association Task) will be the main dependent measure in Experiment 2. Based on prior research, it is predicted that students will report increased perceptions of fear and risk, and lower perceptions of safety, after the legislation is implemented on their campus, whereas students at the control university will show no significant changes over time. Such results would suggest that subjective externalities should be considered in addition to objective crime rates when evaluating the impact of concealed carry legislation on campuses.

Results or preliminary results and their impact on the field:
As predicted, data from the baseline phase showed no differences between campuses. Post-manipulation data are currently being collected.
Brooke Lillian Taylor, Mass Communication, Texas State University

In recent years media have reported that concussions are common in football and that the harm caused by head injuries needs to be made public. In 2010 two ESPN reporters, Mark and Steve Fainaru, teamed up with Frontline, a sports reporting television show under the umbrella of the Public Broadcasting Station (PBS) to expose the fact that the NFL was trying to cover up head injuries (Brogley Webb, 2014). However in August of 2013, just three years later, a television documentary “League of Denial: The NFL’s Concussion Crisis” (2014) was stopped in its tracks (All Things Considered, 2013). This was the beginning of media exposure concerning the truth about concussions in the NFL. This research analyzes and tracks the reporting of concussions and head injuries in the National Football League and theorizes that there was a major shift in concussion reporting after the film “Concussion” was released in 2015. Reading sports reporting articles from 2010 when the Fainaru brothers began their attempt to expose NFL concussions through present day to prove that there was a notable shift, this research examines language used in the reporting. Ahmed and Hall (2016) assessed the terminology used to describe injuries as well as the side effects. Expanding on previous research this study investigates the quality and quantity of reporting before and after the film debuted in 2015. This research attempts to find out the reason media covered concussions more widely since the story has been made pubic. This phenomenon is similar to the publicity that surrounded the documentary film “Blackfish.” Once Sea World was exposed the media fed off of the controversy, and I believe that “Concussion” had the same effect. Between the release of “Blackfish” in 2012 and 2016 attendance for the theme park dropped 7.9% and the stock for the park dropped 52% according to a San Diego Tribune news paper article (McSwain, 2016). It is plausible that the NFL fear that discovery of the brutality and damage caused by their sport could cause a dramatic decline not only in viewership but also in support.

References:
Ahmed, O. H., & Hall, E. (2016). “It was only a mild concussion”: Exploring the description of sports concussion in online news articles. Physical Therapy In Sport, 23, 7-13
All Things Considered. (2013) ESPN Drops TV Project On NFL Brain Injuries.
Prevalence of *Batrachochytrium dendrobatidis* in Two Sympatric Tree Frog Species, *Hyla cinerea* and *Hyla versicolor*.

Andrea Villamizar-Gomez, Michael Forstner, Thanchira Suriyamongkol, Katlyn Forks, William Grant, Hisao-Hsuan Wang & Ivana Mali, Aquatic Resources, Texas State University

**Problem or research question:**

This study sought to achieve two primary goals, to assess the prevalence of *Batrachochytrium dendrobatidis* (*Bd*) in *H. cinerea* and *H. versicolor* within a system of ponds in central Texas, and to provide a thorough literature review evaluating the occurrence of *Bd* in our two target species throughout the US. Our literature review examined the prevalence of the pathogen within the US to visually represent where species distribution overlapped with positive and negative detections, thus identifying states that have yet to be surveyed for *Bd*. The two aims of this study will not only provide an assessment of the prevalence of *Bd* in native tree frog populations in central Texas, but also identify how best to target future assessment studies in these widely distributed species.

**Methodology or approach:**

We used samples collected from an ongoing abundance assessment in Bastrop County, Texas. All frogs were captured by hand, wearing disposable vinyl gloves and tissue samples were collected in individual vials with 95% ethanol for future analyses. We extracted DNA using a DNeasy Qiagen Tissue Kit, and the detection of *Bd* was assessed using a real time Taqman qPCR assay. We also conducted a literature review based on positive detections, negative detections, and states where *Bd* has not been assessed within the species geographic range, using the Amphibian Disease section of the journal Herpetological Review since inception 15 years ago, Google Scholar Search engine and searched *Bd*-Maps. These data were then applied to create thematic maps using ArcMap 10.2.2.

**Results or preliminary results and their impact on the field:**

In this study we show, that with a relatively large sample size (*n* = 123), *H. cinerea* regularly tested negative for *Bd*, which is consistent with previous studies. In the same bodies of water, we were able to detect *Bd* in *Hyla versicolor* despite a much smaller sample size (*N* = 27). Our literature review demonstrated that the prevalence of *Bd* has been assessed in 7 states within the range of the *Hyla cinerea* and 12 states within the range of the *Hyla versicolor*. While *Bd* was not detected in *Hyla cinerea* in any of the 7 states sampled, it was detected in *Hyla versicolor* in 3 of the 12 states that were sampled. This manuscript not only provides an updated assessment for the prevalence of the pathogen among *Hyla versicolor*, but it also extends the results to include our own confirmation of zero prevalence in a sympatric frog *Hyla cinerea*. Which continues the trend of the metadata observation that populations of *H. cinerea* have proven negative for the presence of the pathogen, in the wild, across North America.
Lag, Glitches, and Griefers: An Ethnographic Approach to Video Games and Frustration
Jonathan Villarreal, Media & Communication, Texas Tech University

This study takes an ethnographic approach to the study of video game effects on frustration and aggression in order to better establish a connection between gameplay factors and the impact they have on the player’s experience. The Frustration-Aggression theory suggests that people will become frustrated and subsequently, aggressive, when they fail to achieve a goal. This theory has been found to apply to video game play as well, as established by Williams (2009). What is less known, however, is what type of video game elements contribute most to frustration-aggression. This paper looks at scholarship on the subjects of frustration-aggression and video game structure or specifically, narratology and ludology. To test this, 10 participants were observed playing video games and interviewed about their habits and frustrating experiences. Data suggest that participants who played online shooter games were the most frustrated and vocal of all of the participants. Data also suggest that two factors, performance and uncontrollable factors, stand out as primary sources of frustration.
Art Activates and Animates the Activist Within
Skyller Walkes, Adult, Professional & Community Education, Texas State University

Problem or research question:
This study seeks to examine how does the intersectionality of Afro-Latin identity affect perceptions of racialized experiences for individuals who engage activism through art within their communities? Furthermore, the research aims to explore the additional sub-questions, which are: Can art as activism catalyze transformative critical reflection as a process of activation, animation, and empowerment? How can individual consciousness around the intersection of Afro-Latin identity inform art as an emancipatory act for the collective?

Methodology or approach:
This ethnographic narrative study acknowledges the critical as a part of the theoretical framework that informs the literature, but aims to transcend the critical through a focus on the emancipatory processes experienced by participants through and because of their engagement with various art forms—either creator or witness. For the purpose of the study, I will observe individuals in un-manipulated environments where an art form is engaged in a shared space and collect first-person accounts from participants in an effort to capture and document the lived experiences of Afro-Latin (a/o) individuals, while attempting to remain respectful and mindful of the reality that the retold story is not a direct translation of the participants. In short, the study will draw upon the histories and stories of the participants and the broader community of those who share the culture of the group. Interviewing is a critical aspect of qualitative research because it frames the purpose of the qualitative study. This study does not wish to objectify its participants in any way or interpret their shared stories as accounts of “victimization.” Instead, the study aims to transgress such a debilitating binary of victim and perpetrator and focus on the possibility of empowerment through activism and social movements in public spaces, ergo, public pedagogy. Interviews will be the primary form of data collection in this study, as are the notes that will be taken during the recorded interviews in an effort to capture any observations during the interview process. Interviews will be the primary form of data collection in this study, as are the notes that will be taken during the recorded interviews in an effort to capture any observations during the interview process.

Preliminary Results and Their Impact on the Field:
Analyzing art as a form of activism for Afro-Latinos and the subsequent social action that can take place in those public spaces through that intentional engagement tend to be the result of both individual transformative experiences through critical reflection and reflexive thought, as well as, the dialogue the art encourages among participants who experience it within the communal space. Thus, art has the potential to impact individuals living in the margins by catalyzing transformative thought, and can consequently, be understood as a potential site for mobilizing communities through that social (inter) action.
The Perceptions of Women of Color in “Orange Is the New Black”

Undria Wilson, Storm Monteiro Tyler, Samantha Lopez & Dylan Lochridge-Fletcher,
Mass Communication, Texas State University

Problem:

“Orange Is the New Black” is a popular Netflix show based on Piper Chapman’s memoir. This comedy-drama chronicles the misogynistic and racist system that currently plagues America. Centered on the lives of women in prison, this show offers insights into racism, the criminal justice system and perceptions of individuals wearing a badge number or inmate identification badge. “Orange Is the New Black” proves that the perception of women of color still revolves around media depicted stereotypes.

Theory:

As we’re dissecting the intersection of both being a woman and person of color, racial identity theory (Covert & Dixon, 2008) is most applicable to this study. Based upon personal interactions amongst members within their racial communities as well as the perception of the group from the majority, this theory provides depth to understanding the experiences of women of color. Although “Orange Is the New Black” focuses on the general lives of women of color in prison, difference in characters stem from their racial backgrounds. Therefore, these depictions have real life consequences and impact women of color in everyday life.

Methodology:

This research focuses on student perceptions of women of color portrayed in the Netflix show “Orange Is the New Black” via a focus group. We will examine the characters to explore the representation of women of color and research if women of color feel exploited based upon character portrayals. The focus group participants will comprise women of various backgrounds and shown four clips of to gain insight about the perceptions of the women of color. We hope these responses will assist in changing the cultural ideologies and representation of women of color.

References:

Explorations of Upper Extremity Symmetry in Healthy Adults during Robot-assisted Training

Angel Young, Elise Decker & Denise Gobert, Physical Therapy, Texas State University

Background:
Physical therapy incorporating repetitive task practice has been shown to be an effective method for enhancing upper extremity motor function after stroke. Robot-assisted training (RAT) is an FDA-approved clinical treatment for persons with hemiparetic limbs that may be a feasible approach to facilitating achievement of repetitions.

Purpose:
The purpose of this study was to establish a reference database for upper extremity RAT using healthy individuals with no upper extremity disability. A secondary goal was to explore physiological symmetry of the upper extremity as it relates to RAT task performance.

Methodology:
Thirty healthy volunteers were recruited for the study. Subjects completed a physical health screening survey and the QuickDASH (Disabilities of Arm Shoulder Hand Outcome Measure) standardized clinical questionnaire. Four activities were administered for the dominant upper extremity using the InMotion ARM™ Interactive Therapy System:

- Point to Point
- Circles
- Playback Static
- Round Dynamic

Nine subjects were tested for both upper extremities.

Data Analysis:
Descriptive statistics were performed using IBM SPSS vs. 22.0 software. Paired T-tests were used to analyze bilateral data. Multivariate ANOVA and regression analysis was performed on data collected for the dominant side. Alpha level was set at 0.05.

Preliminary Results:
No significant differences were found in performance of the RAT tasks when grouped by gender, hand dominance, or level of physical activity. No significant correlations were found between grip strength and outcome measures.

Bilateral testing demonstrated significant results for two of the four tests: Playback static in the E direction and Point to Point smoothness. Holds that required multi-planar muscle activation in diagonals was found to be significantly different before adjusting for symmetry. Once corrections for symmetry were made, only holds in the E direction were shown to be significant
with the non-dominant side consistently performing better. The dominant upper extremity demonstrated greater smoothness during the Point to Point task.

Conclusions:
Preliminary results show that norms for RAT can be standardized across genders, hand dominance, grip strength, and physical activity level. Bilateral testing provided evidence of the prevalence of symmetry for most tasks, but significant difference in performance between dominant and non-dominant extremities were noted for smoothness and isometric holds in the medial direction, suggesting delayed initiation of internal rotators and shoulder adductors on the dominant side during static holds. The study suggests that asymmetry of the upper extremity may be reserved to the most distal joints of the wrist and fingers, while more proximal joints proved to be fairly symmetrical in terms of coordination and strength with some exceptions.

Clinical Relevance:
The findings of this pilot study aid to establish a norm reference database for RAT from which therapeutic goals can be established and tracked. Moreover, the results about symmetry suggest that with the exception of smoothness and isometric holds combing shoulder external rotation and abduction, one can establish norms for each individual based on the performance of their unimpaired arm.
The concept of heteronormativity is one of the basis of queer theory. Queerness emerges from a lifestyle, usually separated by sexuality or opposing gender roles, that contradicts what is seen as the established roles in heterosexual lives and relationships (Manning). While the true application of queer theory is difficult to define, there has been one recurring subject that emerges from the quagmire in recent research: the idea of homonormativity. Throughout the evolution of queer life and its broader acceptance into the general public, there seems to be a pull toward creating an idea of what the life for a queer person should look like. Leopold Lippert, in his analytical paper “How Do You Think We Get To Pottery Barn?” argues that contemporary drama is shaping what is acceptable for homosexual relationships, creating a paradoxical homonormativity, that is then displayed in other forms of media. This idea can be seen in recent interpretations of Torch Song Trilogy and how it is used to speak to gay rights to adopt and be married, creating a “normal life” for those who identify as queer (Williams). By using Torch Song Trilogy, one can explore the congruency and clashes between heteronormativity and homonormativity.

References:


Accuracy of Estimating Ancestry in Undocumented Migrants along the South Texas Border Using Dental Morphological Traits: A Comparison to Craniometrics

Nandar Yukyi, Chaunesey Clemmons & Kate Spradley, Anthropology, Texas State University

Problem or research question:
Ancestry estimation is an essential factor of the biological profile, but accurately estimating ancestry in Hispanic individuals is difficult. While it is customary to use craniometrics to quantitatively estimate ancestry of unknown individuals, the use of dental morphological traits for ancestry estimation is becoming more common. In this presentation, the accuracy of discriminant function equations using dental morphological traits established by Edgar and traditional craniometrics to differentiate between Hispanic and Non-Hispanic individuals were compared. The goal is to determine if these two accepted methods of ancestry estimation can accurately classify undocumented migrants discovered along the South Texas border.

Methodology or approach:
The sample consists of 10 individuals (9 Male, 1 Female) discovered along the South Texas border that are thought to be Hispanic based on anthropological analyses and cultural profile. A total of thirteen dental traits were observed and scored on both antimeres, when present, using the Arizona State University Dental Anthropology System (ASUDAS) and the expression count method. The expression count method uses the more complex or higher score of the antimeres to represent the scored trait for that individual. Only permanent maxillary and mandibular teeth were observed and scored. Those teeth that exhibited wear, breakage, caries, modification, or calculus were observed to the extent possible. A discriminant function equation established in Edgar (2013) was used to differentiate between Hispanic and Non-Hispanic. The rate of accurate Hispanic classification was then compared to the rate of accurate craniometric classification. Standard craniometric landmarks were taken with a Microscribe G2® 3D digitizer and recorded using 3Skull. Twenty-four inter-landmark distances were then imported into FORDISC 3.0 in order to estimate ancestry. FORDISC is a program that uses discriminant function analysis to classify individuals into ancestral groups in reference to data from the Forensic Data Bank (FDB). Each individual was compared to four ancestral groups in FORDISC: White, Black, Hispanic, and Guatemalan. These four groups were chosen to be consistent with Edgar (2013) sample groups of Spanish-speaking regions that include South America, Cuba, Mexico, and Puerto Rico.

Results or preliminary results and their impact on the field:
Results from a sample of N=10 showed that the two methods do not give similar ancestry estimations. According to the dental results, one out of ten individuals classified as Hispanic, while the craniometric results indicated that five out of ten individuals classified as Hispanic (one of which was Guatemalan). Further, of the ten individuals, ancestry estimations for only three individuals matched between both methods. A goodness of fit was used on the results and showed that there is a statistical significance between the two methods at the 95% confidence level. However, these results may be due to the small sample size of N=10.