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SINGLE-DOSE ETOMIDATE FOR INTUBATION IN THE TRAUMA PATIENT

Objectives: Concerns over the consequences of adrenal suppression caused by a single dose of Etomidate in the emergency department (ED) led us to limit its use in trauma patients in 2006. The objective of this study was to compare mortality, hypotension, ICU and hospital length of stay (LOS) for trauma patients requiring intubation during periods of liberal vs limited Etomidate use.

Methods: A retrospective review of trauma patients requiring emergent intubation who presented to our level 1 trauma center between August 2004 and December 2008, before and after we reduced the use of Etomidate in 2006. Using a standardized data collection form, trained research assistants collected data on demographics, induction agents used, episodes of hypotension in the first 24 hours, ICU and total hospital LOS, and survival. Two tailed Fisher's Exact and t-tests were used to compare proportions and means.

Results: Of 1325 trauma patients intubated in the ED during the study period, 443 occurred during the 23 months prior to July 2006 (liberal Etomidate use) and 882 in the 30 months after July 2006 (limited Etomidate use). There were no significant differences in patient demographic or injury severity between the two periods. During the liberal period, 258/443 (58%) were intubated using etomidate compared to 205/882 (23%, $p<0.0001$) during the period of limited use. We found no significant differences in mortality (30% vs. 29%, $p=0.70$), mean ICU days (8.2 vs. 8.8, $p=0.356$), or mean hospital LOS (13.8 vs. 14.4 days, $p=0.55$). Episodes of hypotension were more common in the limited etomidate use group (45% vs. 33%, $p<0.0001$).

Conclusion: A significant reduction in the use of Etomidate in trauma patients was not associated with differences in mortality, ICU days, or hospital LOS, but was associated with an increase in episodes of hypotension within 24 hours of admission.

Abstract details:
Design: Clinical, Observational, retrospective cohort
Category: Trauma
Key words: Trauma, intubation

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THE MODERATING EFFECTS OF ANXIETY ON IMPULSIVITY IN COLLEGE STUDENTS WITH INTERMITTENT EXPLOSIVE DISORDER

Intermittent explosive disorder (IED) is a behavior disorder characterized by recurring acts of severe aggression, which are disproportionate to the current situation. Since impulsivity is the most fundamental component of this disorder, and is most responsible for a lack of aggression management in those suffering from this illness, it would be advantageous to search for insight into how impulsivity varies in IED. Due to a high rate of comorbid anxiety in IED, the current study examines how anxiety can regulate impulsivity in aggression. After considering Gray's (1998) behavioral motivation system, and previous literature indicating correlates of anger-in (internalized expression of anger) and anger-out (anger directed outwardly to one's environment), we hypothesize that Individuals with IED are more impulsive than those

who have a comorbid diagnoses of IED and anxiety. Additionally, we hypothesize that individuals with anxiety-only will have lower levels of impulsivity than individuals with IED only and individuals who have IED and anxiety.

Participants were 200 Fresno State Students seeking counseling at the campus mental health center. We used participant answers to the Brief Symptom Inventory (BSI) to diagnose anxiety disorders, and the Comprehensive International

Diagnostic Interview Schedule (CIDI-DSM-IV) to diagnose IED. A structured anger interview was used to determine how participants would respond during anger provoking situations. During the interview, a research assistant presented audiotaped scenarios and participants explained what they would do and say if they experienced a similar situation. All responses were video recorded. Research personnel (Coders) coded (assessed) the videotaped responses to the interview in terms of how the participant responded in the interview and in terms what the participant would say and do in the situation. Coders evaluated the following variables: anger intensity, impulsivity in actual response, behavioral control, verbal aggression, physical aggression, motivation for reward, motivation to avoid punishment, functionality, disorderliness, and social skills. All variables were coded using 9 point Likert type scales. Between-subjects ANOVAs will be used to examine if there is a significant difference in levels of impulsivity among groups. In addition, several combinations of multiple-regression analyses will be used to examine if any rating scales were predictors or interact to predict levels in any other rating scales. To test our main hypothesis, we will utilize a multiple regression analysis to measure anxiety and IED as predictors of impulsivity, in addition to analyzing for an interaction between IED and anxiety

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THIS IS NOT A TEST - MADDEN LIBRARY'S WEB USABILITY STUDY

The Henry Madden Library at Fresno State has scheduled a redesign for its website in Fall 2010. In light of this, the Henry Madden Web Advisory Team called upon the Institute of Public Anthropology (IPA) to participate in its Web Usability

Study. Such studies have become important tools in understanding the effective use of websites. The need to provide students with a practical and useful website by which they are able to navigate and utilize all of the potential research opportunities is important to student success. Librarians understand how their website works because they are masters of research. However, how does the average student who does not have the skills of a professional librarian use the website?

This is the question we sought to answer. Each of the forty two Fresno State students recruited as participants, all of which were of junior status, were administered a test of ten questions, whereby they were required to navigate the librarys web site. A team of IPA student researchers administered the tests. Important to this particular study was the development, design and execution of the research project by the inter-disciplinary team of librarians, IT technicians and anthropologists. The research team drew on methods from the emergent field of design anthropology such as participatory (re)design and interaction design (IxD). The interviews were video- taped and recorded while simultaneously recording the student's movement through the website allowing for the opportunity to observe qualitative data alongside quantifiable data. Ultimately, this research project suggests that there are, indeed, ways to approach the redesign of the library's website that would benefit student's abilities in navigating the site and achieving academic success.

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THE ABCD CONUNDRUM: WOMEN, MARRIAGE, AND ALTERNATIVE FORMATIONS OF POWER

On an afternoon in September, I find myself with Padmini - a respondent involved in my field work. She reveals to me: "It was something very prominent in my mind [to marry] someone who can understand the language [my parents] speak…[But] none of my friends know the story of how I got married…I didn't want them to know after three dates with someone that my parents chose for me, I was getting married…"

Padmini talks to me about her "arranged marriage." She describes why it was important to her to have her parents' involvement in her partnership selection, while simultaneously voicing her embarrassment, especially as a South Asian-American woman – a gendered body marked by color and culture. Padmini insightfully problematizes the East/West divideor the binary and mutually exclusive categorization between American and South Asian.

In this paper, I explore the national debates on U.S. immigration and theories of assimilation and hybridity. Here, I focus on the role marriage plays in lives of "second-generation" South Asian-American women. I do this by presenting partial data from a twelve-month-long feminist ethnographic study. In 2004, I conducted in-depth semi-structured confidential day-long interviews with a cross-national sample of twenty-five second-generation South Asian-American women. I explored how informants respond to their families' expectations of marriage along with the women's own expectations of marriage.

What is being written into both the academic and popular narratives is a story of cultural displacement which evades the specificity of gender and depends on stereotypic propositions about America and South Asia. This lens lends to a view that South Asian-American women are part of a strict, inflexible, patriarchal, South Asian family, and the "westernized" second-generation have no choice but to rebel against their own culture. What I discover is that my research participants collapse the one-dimensional multicultural model by producing multiple and contradictory identities simultaneously.

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SHELVING SELF: IDENTITY POLITICS IN OSCAR WILDE'S COMEDIES OF MANNERS

Much of the scholarship that concerns itself with Oscar Wilde or his literary corpus has endeavored to define what the author 'means,' and critics remain vastly divided in opinion about who the 'real' Wilde was, or what he or his art signifies.

However, such studies have privileged deconstruction of Wilde's created selves or the autobiography of his writings, neglecting to appreciate Wilde as, not simply a witty nonconformist, but also someone exceptionally conscious of identity's fundamental pluralism. Throughout his life, Wilde was the consummate 'actor'—cultivating persona carefully from youth onward—and, I argue, such fixation with performance is distinctly evident within his writing as well. This is particularly true of his comedies of manners, wherein lead characters often seem acutely conscious of audience and uniquely preoccupied with generating and managing identity. Contending against Victorian notions of unified self-hood, many of his characters manufacture identities on the fly as necessity or desire demands, to manipulate cultural scripting and achieve various types of agency.

Ultimately, viewing Wilde's comedies as commentary on the calculated self-selectivity of performative identity helps explain the relevance of famously limpid Wildean personas like Jack Worthing, Algernon Montcrieff, Lord Goring, and Lord Illingworth. Largely situating my analysis in Smith and Watson's work, I illustrate how Wilde uses these characters to reevaluate the 'nature' of self story and to challenge the notion of a comprehensive biographical truth, describing the Self as an undulating, spontaneous, context-dependent performance that is inherently deceptive and artistic.

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ENVIRONMENTAL PROTECTION SCIENCE: MISSING PIECES IN BIO-INVENTORIES, AN EXPLORATORY STUDY INTO THE SCIENCE OF UNDERGROUND BIO-SURVEYS

Much has been done to survey and catalog species to protect the environment that supports these flora and fauna. In a series of recent bio-surveys of subterranean flora and fauna, it became apparent that many environmental protection schemas did not account for or consider its underground denizens. Categorized as an "out of sight, out of mind" phenomena, this presentation was designed to illustrate the bearing and importance of this bio-survey aspect for environmental studies, especially those which are the anchor point for industrial and recreational usage of land tracts.

Hands-on work in the field coupled with a review of prior studies of designated land tracts found that many had limited or dated bio-surveys from which environmental impact statements could not be reasonably made. The categories of troglobites, troglophiles, and trogloxenes were focal points, and it has been found that many new species have been discovered based on limited surveys done. These bio-unique species need to be considered in recreational or industrial use of the land tracts, and proper measure taken to protect them. Implications for biological inventory and science education have been recommended based on current findings.

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ON THE WELL-COVERED DIMENSIONS OF VARIOUS INDIVIDUAL GRAPHS AND GRAPH FAMILIES

The well-covered dimension *wcdim(G,**F**)* of a graph *G* is the vector space formed over a field ***F*** by the set of all well-covered weightings of *G*. In our talk, we will first explain what *wcdim(G,**F**)* is and how to compute it by using the weights on the maximal independent sets of *G* to construct a homogeneous system of linear equations. Then, we will demonstrate methods through which it is possible to compute *wcdim(G,**F**)* without knowing the maximal independent sets of *G*. Finally, we will present results obtained for various individual graphs and graph families, such as the crown graphs, through the utilization of these methods.

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ATMOSPHERIC CHEMISTRY OF ORGANIC PEROXY RADICALS

The photochemical oxidation of organic pollutants in the atmosphere usually occurs via a complex series of reactions involving oxides of nitrogen (NOx), ozone, hydroxyl radicals, and peroxy radicals. When levels of NOx are low, however, products of these organic pollutants (organic peroxy radicals or RO2s) typically react with hydroperoxy (HO2) radicals.

Historically, only one channel for this reaction was known, and it was thought to act as a sink for RO2s and decrease overall radical concentrations in the atmosphere. Recent experimentation has shown, however, that select RO2s are capable of reacting via three channels, two of which do not act as a sink. These additional channels can lead to products very different from those produced by the first channel, including additional radicals and ozone. The goal of this work was to characterize the three known channels, and to determine the proportion of RO2 molecules that react via each channel (branching ratios) as a function of radical size, structural branching, and degree of functional group substitution.

To produce the RO2s desired for study, aldehydes or ketones were used as precursors. These were inserted, along with HO2 precursor and chlorine gas, into either a 142 L Teflon-lined reaction cell, a 25 L Tedlar bag, or a 47 L stainless steel reaction cell. The mixture was then exposed to light from 40 W blacklight lamps or a filtered xenon arc lamp, which photolyzed the chlorine and initiated the reaction. Fourier Transform Infra-Red (FTIR) Spectroscopy, Gas Chromatography-Flame Ion Detection (GC-FID), Gas Chromatography-Mass Spectrometry (GC-MS), and High Performance Liquid Chromatography (HPLC) were used to analyze the products.

The results indicated that when 2, 3, 4, and 5 carbon straight-chain aldehydes were used as precursors for RO2s, between 20-40% of the molecules reacted via the first radical sink pathway. Depending on carbon chain length, up to 60% of the molecules directly produced ozone, while the remaining 20-40% produced more organic radicals. The branching ratios measured for a structurally branched aldehyde varied from those observed using its straight-chain isomer as a precursor.

When ketones were used to produce the RO2s only two pathways were observed, and the branching ratios varied according to the degree of substitution of the carbon atom attached to the peroxy group. These previously unstudied reaction channels yield high amounts of products, but have never been incorporated into any atmospheric model; the investigation of this chemistry is therefore important in building better models to understand current trends in the atmosphere's composition and status.

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NUTRIENT COMPOSITION OF ALPACA (VICUGNA PACOS) MILK

Nutrition in the first months of life can either help or hinder the development and future production of an animal. Alpacas,known for their fine fiber, are no exception. Therefore, it is critical that we have a milk replacer that meets the needs of orphaned or poor-doing alpaca crias (young). Although there are nearly 150,000 animals in the US alone, to date there have nnot been any studies in North America on alpaca milk. Additionally, there are less than ten studies worldwide on South American Camelid milk composition. The objective of this study is to determine the nutrient composition of alpaca milk.

The study followed alpaca dams (n=13) through the first 12 weeks of lactation. After taping dams' teats for 2 hours, 15 ml of milk were collected by hand. Milk was tested for protein, lactose, fat, solids non-fat, milk urea nitrogen and somatic cell count on a weekly basis with infrared spectroscopy.

Fat levels varied between animals but stayed relatively consistent within the animal throughout the study. Lactose concentration declined over the course of lactation. The largest changes in protein were observed in the first four weeks of lactation.

Nutrient concentration in alpaca milk changed over the first 12 weeks of lactation. Fat appears to be dependent on individual animal genetics. This information may be helpful in formulating milk replacers for crias at different ages.

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THE INTERSECTIONS OF RELIGION, SEXUALITY & CULTURE: WHAT DOES IT MEAN TO BE A LESBIAN MEXICAN-AMERICANMOTHER?

It was a moment of realization. I honestly think she had never thought about it before. Maybe at some point in her life, in the back of her mind she thought about it, but never had she expressed her feelings aloud. Maria revealed: "I've always wanted to have something that was mine. So you can say I had them also because it was something that nobody could take away from me, it was, it's mine, that's it...They couldn't be taken away from me. And all my life I've always had things taken away from me and they couldn't. Nobody could."

Maria tells not only that she wanted kids, but why she wanted them. In a world where things aren't guaranteed, and those that should be, such as family, aren't, Maria wanted something nobody could take away. What we as individuals represent to ourselves and others, who we are, and how we feel about who we are, should be something that is not only guaranteed, but accepted by all. Starting from such a young age, Maria knew she was different. But instead of being able to embrace that, she was forced to hide it. She hid who she was for years. Her sense of self and what she represented was taken away from her by her family, her culture and her religion.

In this paper, I focus my research on Mexican, American, women, lesbians and mothers. The goal of this paper is to bridge the gap between lesbians and motherhood and bring the two concepts together in what could possibly become a new strand of lesbian discourse. In 2009, I conducted an in-depth interview with Maria, a Mexican-American lesbian woman.

Unlike most people's journey, Maria's difficult journey wasn't about finding out who she was. It was about being able to be who she truly was and being accepted by family and friends. However, there is a gap between Maria's story and the literary works of lesbian Chicana feminists. Maria is a mother of 3 children. She states she knew she always wanted children, in addition to knowing she had an attraction to women. This literature is missing from literary works.

Using Maria's story and literature provided to me by great Chicana women that have come before me, I attempt to not only provide information that supports their arguments, but to fill in the holes that they don't cover. While I did discover research that studied lesbian mother's experiences to understand how their experiences of motherhood compared and contrasted with the experiences of heterosexual mothers, the bridge between the gaps is not complete. What will complete this bridge is uncovering a new chapter in lesbian discourse; motherhood. Maria is a fantastic start to this new discovery that shall one day be completely unearthed.

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A New Lariat Structure and Biochemical Mechanism for Grape Cytochrome P450 Monooxygenase Gene CYP736B Pre-mRNA Splicing

Pre-mRNA splicing occurs via a transesterification reaction mechanism in eukaryote. A critical question has been how the splicing sites on the pre-mRNA substrate for the transesterification reactions are determined.

Grape cytochrome P450 monooxygenase gene CYP736B contains two exons and one intron with GT as a donor site and AG as an acceptor site. We designed a PCR-based method with pairs of primers in "end-to-end" orientation to identify the branch points for CYP736B pre-mRNA splicing. We measured the pre-mRNA lariat structure and determined the chemical bonds at the branch points using the yeast lariat debranching enzyme yDBR protein.

Here, we report that a new lariat structure was dynamically formed between a branch point within the intron and various 5' sites within the exon in the grapevine CYP736B gene through a 2'-5' bonding reaction. Based on the current experimental evidence, we propose that the grapevine CYP736B pre-mRNA splicing would occur via three sequential transesterification reactions in five steps: (1) the 2'OH of the branch-point nucleotide within the intron performs a nucleophilic attack on multiple 5' nucleotides individually with different locations in the exon; (2) the nucleophilic attack induces nucleotide mutagenesis and mini-structural rearrangement within the branch point region and promote an exon-intron lariat intermediate formation; (3) the exon-intron boundary confined 5' splicing site is subsequently determined; (4) the 5' splicing site of the intron is released; and (5) the 3'OH of the released 5' intron then performs a nucleophilic attack at the last nucleotide of the intron at the 3' splice site thus joining the exons and releasing the intron lariat.

In conclusion, a new lariat intermediate structure with a novel biochemical reaction mechanism was discovered for grapevine CYP736B pre-mRNA splicing. This work may highlight our further understanding of the common mechanisms for gene expression and regulation in other eukaryotic systems.

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TIMING OF SPEECH AND DISPLAY AFFECTS THE LINGUISTIC MEDIATION OF VISUAL SEARCH

Recent studies have shown that instead of a dichotomy between parallel and serial search strategies, in many instances we see a combination of both search strategies utilized. Consequently, computational models and theoretical accounts of visual search processing have evolved from traditional parallel or serial descriptions to a continuum of "search efficiency". As a result, a Biased Competition account of visual attention predicts that a variety of sensory inputs can exert a graded influence on the efficiency of visual search. In our first experiment, we replicate previous findings regarding incremental spoken language comprehension on visual search processing utilizing a between subjects design. Next, a series of four experiments further explore the subtle timing of the influence of real-time language processing on visual search. The results provide further evidence toward understanding linguistically mediated influences on real-time visual search processing and support an interactive processing account of visual search and language comprehension.

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VISUAL SIMILARITY RATINGS OF AQUATIC PLANTS AND ANIMALS BY UNDERGRADUATES

Young children's biological reasoning could be influenced by the way that adults talk about living creatures. In a prior study, researchers examined the effect of using pronouns and intentional language on children's categorization of atypical animals. In one of the prior study's unexpected stimuli differences, the current study is exploring whether the pictures of the natural sea creatures have visual features that could have influenced the children's responses. Pairs and individual pictures of sea creatures were shown to the undergraduate students to rate them on similarity of background, brightness, colorfulness, size, shape, and texture. Due to the difficulty that the children had with three of the sea life pictures, the analyses compared the pictures of the atypical sea creatures (urchin, anemone, and sea star) to the pictures of animals and plants used in the study.

Sixty-one undergraduates viewed nine different pictures of sea life in pairs and were asked to rate them on how similar they were to each other based on the six visual features (on a scale of 1-9, 1 being least similar and 9 being most similar). They were also asked to rate the pictures on how similar the pictures were in background, brightness, colorfulness, size, shape, and texture. The pair ratings were averaged together to determine whether undergraduates thought the atypical sea creatures were more similar to the plants or to the typical animals. The individual ratings of each of the atypical sea life were compared to the plants and typical animal averages to obtain difference scores as a corroborating measure of visual similarity.

Paired samples T-test revealed that there were significant differences between comparing the atypical sea creatures to the plants and typical animals in both conditions (pair ratings and individual ratings). These findings indicate that undergraduate students saw visual differences between the atypical sea creatures and the animals that mimic the difficulties that the children had in their biological reasoning. Results from the individual visual features ratings confirm that the aesthetic attributes of these specific pictures differ in ways that match children's conceptual errors.

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PROFILING CORAL AND BACTERIAL RESPONSE TO YELLOW BAND DISEASE

Coral reefs are one of the most productive and biologically diverse ecosystems in the world; unfortunately, they are also highly endangered. Human population growth and environmental change have been noted to attribute to coral mortality and more recently disease events. In the Caribbean Sea, Yellow Band Disease (YBD) is widespread and is known to affect several coral species including Montastraea spp., which are dominant reef building species in this region. Corals have symbiotic algae and other associated microbial organisms, which together comprise the coral holobiont. As an integral part of the coral holobiont, bacteria are used as indicators of coral health. To better understand the holobiont response to disease, this study used both cDNA microarrays and high-density 16S rRNA gene microarrays. These techniques are used to investigate the transcriptomic response of the coral host as well as to profile the abundance and diversity of bacteria associated with M. faveolata displaying phenotypic signs of YBD. Using these high-throughput approaches, we are aiming to 1) survey the coral-associated microbial community, 2) aid the discovery of novel bacteria, and 3) identify disease-causing pathogen candidates. The results of this work unveil specific host genomic response to YBD, levels of magnitude of coral-associated bacteria not yet revealed, and refine our understanding of bacteria associated with M. faveolata under healthy and diseased conditions.

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HOW TO KEEP ALLEYWAYS CLEAN IN THE CITY OF FRESNO

The City of Fresno, California has been experiencing the exhausting problem of unauthorized dumping in the cities alleyways for many years. It raises significant concerns regarding public health and safety, property values, environmental pollution, economic effects and quality of life. Unauthorized dumping often attracts potentially hazardous wastes such as asbestos, household chemicals and paints, automotive fluid, and commercial or industrial wastes. Dump sites also serve as magnets for additional dumping and other criminal activities. As a result of illegal dumping, property values decrease and the community becomes unattractive to commercial and residential developers. Without the tax revenues that accompany development, the funding available to establish and maintain effective illegal dumping prevention programs is limited. Ultimately, it is the development of areas susceptible to illegal dumping that eradicates the problem. Based on stakeholder complaints, code enforcement documents, collection zone schedules, public records, government documents from the City of, we have identified patterns that exist throughout these neighborhoods. We implemented Multiple Criteria Decision Analysis (MCDA) tools, which utilize a decision matrix to provide a systematic analytical approach for integrating risk levels, uncertainty, and valuation that enables evaluation and ranking of many alternatives.

This study included tours of neighborhoods, interviews with government officials, community groups, and industry representatives. Problem areas were identified, mapped, and analyzed then tied with community programs currently utilized in Fresno. Similar programs were investigated that have proven successful in addressing unauthorized dumping and reviewed their applicability for Fresno.

This study uncovered that clearly defined, widely supported, and strictly enforced policies and programs that have a bottom up approach to implementation are the most likely solution to the unauthorized dumping problem within the city alleyways. An effective illegal dumping prevention program involves local government, industry, and community stakeholders working together to address the problem in a defined area.

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GENETIC EVIDENCE OF PERMETHRIN RESISTANCE IN THE HUMAN HEAD LOUSE (PEDICULUS HUMANUSnCAPITIS) FROM THE SAN JOAQUIN VALLEY AND SAN FRANCISCO BAY AREA, CALIFORNIA

Pediculus humanus capitis, human head lice, are parasitic arthropods with many populations that have evolved drug resistance to the chemical permethrin, a common component of louse treatment shampoos. Resistance to permethrin is correlated with four point mutations that occur simultaneously within the sodium channel α-subunit gene of the headlouse nuclear genome. The prevalence of resistance within and between louse populations varies geographically, and the exact location of resistant populations within the United States, including California, is unknown. This study investigated the prevalence of resistance and phylogenetic relationships within and between louse populations in the greater San Francisco Bay (SFB) area and Fresno, California. All lice collected in the SFB area (n = 134) were resistant to permethrin; in Fresno, 12 of 52 lice (21.15%) were susceptible. Susceptible lice formed a distinct clade in phylogenies resolved by Maximum Parsimony (all 12 lice), Neighbor Joining (11 of 12 lice) and Bayesian Methods (all 12 lice), indicating restricted gene flow between susceptible and resistant lice. This study was the first to utilize sequence data from the locus expressing resistance to resolve evolutionary relationships between louse populations.

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MEASUREMENT AND MONITORING OF BEDLOAD SEDIMENT TRANSPORT ALONG THE UPPER SAN JOAQUIN RIVER

The San Joaquin River is a highly utilized and manipulated hydrologic system. Its transformation from the mid-1800's to present is perhaps the most dramatic alteration of any of the Central Valley Rivers. These alterations impose tremendous challenges to restoration of the system. The objective of this thesis was to measure the dynamics of sediment transport along a section of the main stem of the San Joaquin River from Gravelly Ford to the Chowchilla Bypass Bifurcation Structure (Reach 2A) and compare the results with predictions made by a working model for the river. On-site quantitative measurements of the sub-aqueous topography were gathered using acoustic doppler radar and GPS (Global Positioning System) techniques. The volumes of sediment scour and deposition were calculated using spatial analyses in GIS (Geographic Information System). Results show that the sediment bed of the study reach is mobile and the simulation models using the fixed-bed assumption under-predicts the capacity in the study reach. The one dimensional sediment transport model underestimates the amount of deposition for the lowest part of the sub-reach, and over-estimated the amount of scour for the entire subreach. These results can be used to explore opportunities to modify the physical system to benefit riparian habitat and/or gain conveyance capacity in Reach 2A.

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PSYCHOLOGICAL AND PHYSICAL BENEFITS OF MINDFULNESS

Borderline Personality Disorder (BPD) is a serious mental health illness characterized by pervasive instability of mood, problematic interpersonal relationships and often life threatening self-harming behaviors. Individuals with BPD are flooding mental health practitioners' and physicians' offices to find relief from their symptoms, but they often go untreated because of complex presentations of these clients (Swales, Armstrong & Heard, 2000). Dialectical Behavior Therapy (DBT) is based on a set of psychosocial skills, including mindfulness, to help manage the common symptom clusters associated with BPD. Mindfulness is a concept that is defined as focusing one's attention on the present moment in a non-judgmental way.

DBT has been shown to increase adaptive functioning and reduce alcohol use in clients diagnosed with BPD and Alcohol Abuse/Dependence (McMain, Sayrs, Dimeff, & Linehan, 2007). Research shows that patients with greater levels of social support have a better chance of recovery from psychiatric disorders (Onken, Craig, Ridgway, Ralph, & Cook, 2007; Breir & Strauss, 1984). Additionally, social support has been shown to be an important factor associated with psychological health (Stansfeld, 2006). DBT includes a group therapy component that can potentially strengthen the social support networks of patients with BPD.

The current study looked at participants enrolled in DBT programs in five states to see how mindfulness was related to physical and emotional health, as well as alcohol use and social support. Preliminary statistical analyses have shown that DBT participants with higher levels of mindfulness report greater emotional wellbeing, general physical health, social functioning, and social support than DBT participants with lower levels of mindfulness ($p < .05$). Participants with higher levels of mindfulness also take fewer prescription medications, use less health care services, and consume less alcohol. Our initial results show that higher levels of mindfulness are associated with positive physical, emotional, and social outcomes.

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AMYLOID PRECURSOR PROTEIN (APP) PROTEOLYTIC PROCESSING IN THE PRESENCE OF â-METHYL AMINO ALANINE (BMAA) CYCAD NEUROTOXIN

Alzheimer's disease (AD), the most common form of dementia, is pathologically correlated with the presence of amyloid-â senile plaques and neurofibrillary tangles (NTFs) in neuronal brain regions. Amyloid-â (Aâ) is formed by the proteolytic cleavage of the amyloid precursor protein (APP), which involves the sequential cleavage of APP by â- and á- secretase containing-complexes followed by ã-secretase cleavage. The neurotoxin â-methylamino-L-alanine (BMAA) has been anticipated to contribute to the pathology of Amyotrophic Lateral Sclerosis-Parkinson Dementia Complex (ALS-PDC).

BMAA has been recently detected at high concentrations in the brain tissue of patients with AD. The pathological hallmarks of ALS-PDC have similarities to those observed in AD. My research is to determine how APP proteolytic processing may be altered in the presence of the putative neurotoxin BMAA. Ntera-2 cells (NT2), human neuronal cell lines, were cultured in the presence of BMAA (30, 100, 300, 1000 and 3000 ìM) with and without 25 mM NaHCO3 for 24 hours. It is anticipated that bicarbonate buffer may be required for BMAA to be active; although BMAA is a glutamate agonist, it lacks the carboxylic acid chain of glutamate. BMAA in the presence of bicarbonate buffer binds the carbamate group at the amino group side chain to mimic glutamate. The total protein concentration and the total LDH released were measured for control and treated NT2 cells indicating the percentage of cell death. APP and its proteolytic fragments were also studied for control and treated cells using Western blot techniques.

Preliminary data showed that BMAA with and without bicarbonate buffer have no effect on cell's morphology. However, BMAA in the presence of bicarbonate buffer seems less toxic than BMAA without the buffer at concentrations higher than 1 mM. Glutamate, on the other hand, seems to be less toxic than BMAA either in the presence or absence of bicarbonate buffer at a concentration of 1 mM or higher. Neither Glutamate nor BMAA in the presence or absence of bicarbonate buffer has a significant impact on APP expression.

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UNDERSTANDING HOW DENDRITIC FIELDS ESTABLISHED IN CAENORHABDITIS ELEGANS

Mechanosensory neuron dendrites in most organisms are arranged in a tiled fashion at the body surface. They are tiled so that an organism can locate sensory stimuli. Studies done in vertebrates and flies have suggested that dendritic tiling is most likely due to homotypic repulsion in which all neurons of the same modality repeal each other. However, research conducted by Dr. Maria Gallegos, suggest that homotypic repulsion is not a likely mechanism for dendritic tiling in C. elegans. During her research she observed that BDU, which in not a neuron of the same modality as PLM has a posterior process that touches the tip of PLM. Given the results of her experiment and this observation we hypothesized that heterotypic repulsion is what drives the tiling mechanism in C. elegans. My research focuses on four of the six light touch mechanosensory neuron in C. elegans, which are divided into an anterior domain (ALM right and left) and a posterior domain (PLM right and left). For this we used an unc-86 mutant strain of C. elegans, that during development it losses the ability to generate ALM and BDU neurons. Using fluorescence microscopy and Image J software we measured and analyzed the length of PLM in animals that lacked ALM/BDU versus that of animals that contained both ALM/BDU. The results of our experiment show that there is a significant neuron growth of nearly 16% more in mutant C. elegans without ALM/BDU versus "wild type" C. elegans. This suggests that heterotypic repulsion is playing a significant role in the tiling mechanism of mechanosensory neurons in C. elegans.

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THE RHETORIC OF MANGO STREET: RECONCILING THE OPPRESSION OF CHICANA FEMINISTS

Speaker 1, a Chicana female discusses how The House on Mango Street can be seen as a feminist and rhetorical text. Since it'spublication, Sandra Cisneros has received much literary acclaim for her work, however, there has been little examination of her work as a feminist rhetorical text. This essay seeks to place Sandra Cisneros within the rhetorical field, and more specifically as a Chicana feminist rhetorician. Using what Lisa Flores calls "a rhetoric of difference" and what Jessica Enoch describes as "the rhetoric of definition," I place Cisneros' The House on Mango Street within the feminist rhetorical tradition.

Using the cultural and historical context of the Malinche narrative and the Chicano political movement of the 1960s, I show the ways that Cisneros' text challenges cultural notions of patriarchy in the Chicano community in order to create a space for the Chicana feminists that have been rejected, oppressed and exiled. I argue that Cisneros' novel creates a space for Chicana feminists to reconcile the claims of betrayal that arose during the Chicano movement and subsequently sets herself apart as a Chicana feminist rhetorician. By exposing violence, encouraging female solidarity and using the strategy of un-naming men, Cisneros' novel becomes a powerful rhetorical tool that challenges sexist ideology—rooted in the long cultural history of la Malinche—that marks Chicana feminists as traitors. Ultimately, Cisneros is able to deconstruct the Malinche narrative and redefine the feminist identity in order to include it within the community rather than keep them outside of it.

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PERSONALITY AND LANGUAGE FLUENCY IN EXPATRIATE ASSIGNMENTS

Failed expatriate assignments are costly to organizations in terms of loss of human capital, time, and profits. Unfortunately, we understand very little about how to select employees who are most likely to do well on an expatriate assignment. Previous research suggests failure of international assignments is in part due to the expatriate's lack of cultural adjustment to the new environment. This study examines the relation between personality characteristics (the Big Five) and language fluency in the host country language with one aspect of expatriate success, cross-cultural adjustment.

Consistent with the hypotheses, we found relationships between several personality characteristics and cultural adjustment. Agreeableness and openness to experience were positively related to general and work cultural adjustment. Conscientiousness was positively related to general and interaction cultural adjustment. Language fluency was positively related to all three levels of cultural adjustment. Potential benefits from this research include more successful expatriate assignments by means of better selection criteria through personality or foreign language fluency.

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NECROTIZING ENTEROCOLITIS IN TERM INFANTS: A CASE SERIES

Purpose of Study: Necrotizing enterocolitis is a serious infection of the gastrointestinal tract that occurs predominantly in preterm neonates. However, about 10% of the time, NEC occurs in term infants. While the exact pathophysiology is unclear in term neonates, it is felt to be often related to infection, compromise to blood flow of the gut (such as hypoxic-ischemic injury), or congenital heart disease. However, we report two term neonates with no known predisposing factors for their presentation and course of NEC.

Methods Used: Case Series

Case #1: A 5-day old male presented with direct hyperbilirubinemia. According to the parents, he had been eating well with normal bowel movements and normal activity since birth. After evaluation by his pediatrician for jaundice, he was referred to the local ER for lab testing. From the ER, he was transferred to our tertiary Children's Hospital, he quickly decompensated; abdominal X-rays showed portal venous air and pneumatosis intestinalis of the small bowel, colon, and stomach. Ultrasound evaluation revealed air in the portal venous system and spleen. In the PICU, mechanical ventilation was instituted, triple antibiotics and bowel rest was initiated. He improved clinically and repeat X-ray findings showed no portal venous air, pneumatosis intestinalis, or perforation within 24 hours after treatment. After 3 weeks of gut rest, a lengthy colonic stricture was diagnosed. At no time was acidosis, renal impairment or hepatic impairment noted.

Case #2: A 28-day old male presented with fever and respiratory distress. Shortly after transfer to the tertiary Children's hospital, he developed worsening respiratory distress requiring intubation and mechanical ventilation. Several days after clinical improvement, he developed a tense, distended abdomen; abdominal X-rays showed areas suspicious for pneumatosis intestinalis. Despite negative lateral decubitus abdominal X-rays, four colonic perforations were discovered by urgent exploratory laparotomy and a subtotal colectomy was performed.

Conclusion: Although classically described in premature infants, NEC is a rare finding in term infants. The etiology and course of NEC in term neonates is unclear. In case #1, massive pneumatosis including stomach wall, small intestine, large intestine with portal venous air appeared to be much worse than the clinical presentation. In case #2, pneumatosis was less evident on radiographic studies, but severe, given the colonic perforations discovered by laparotomy. Despite the rarity of NEC in full-term neonates, various interventions have been proposed to help decrease the incidence, such as exclusive use of breast milk or lactobacillus; however, we need to learn to better identify those infants at increased risk for NEC in order to intervene prior to its development.

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METHYL FARNESOATE REGULATION DURING REPRODUCTION OF THE TADPOLE SHRIMP, TRIOPS LONGICAUDATUS

The putative hormone, methyl farnesoate (MF), appears to have multiple functions in members of Crustacea. MF research in crustaceans is based on the well studied juvenile hormone model in insects. First, MF appears to promote juvenile morphology, with low MF levels being necessary for larval development (Abdu et al., 1998). Second, MF appears to enhance reproduction (Laufer and Biggers, 2001). For our current study, we have used MF degradation by MF esterase (MFE) as an indirect indicator of MF titer. Typically, MFE rate is related to MF titer by an inverse relationship, as seen in insects (Jones and Hammock, 1985). Recently, we have shown that starvation in adults may increase the rate of MF degradation, which can also be found in insect studies (Rankin and Riddiford, 1977). We did not determine the reproductive output in terms of cyst production at this time. The purpose of this experiment is to determine the rate of MF degradation and cyst production simultaneously. Food deprivation will be used to modulate these two factors. It is hypothesized that reproductive output and MF are positively correlated in the tadpole shrimp similar to insects (Riddiford, 2008). Animals will be placed in isolation chambers lined with nylon mesh to control food consumption and collect cysts as they are deposited. The rate of MF degradation will be determined by incubating 3H-MF with tadpole shrimp tissue. Degraded MF will then be separated from intact MF by polar and nonpolar solvents, and counted by a scintillation counter. Young adults (day 7) have a mean MFE rate of 13.9 ± 1.8 (pmol MF/mg protein/min). Day 10 adults have a mean MFE rate of 18.0 ± 1.6. During this time, prolonged food depravation appears to elevate MFE rate to 58.3 ± 2.4, but will return to normal (14.9 ± 3.2) within 1 hour after feeding. Cyst production is also reduced by starvation.

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A KEY TO IDENTIFY MITTEN CRAB MEGALOPAE IN THE SAN FRANCISCO BAY ESTUARY

Light traps are often used to sample marine larvae and can provide measures for relative abundance of larvae between sampling locations. As part of an ongoing study to monitor mitten crab larvae in the San Francisco Bay, light trap and plankton tow samples were analyzed for mitten crab megalopae and zoeae. If megalopae numbers can be shown to correlate with ensuing juvenile mitten crab population numbers, then megalopae light trap sampling may be used as a tool for early detection in invadable bodies of water. In order to implement low cost sampling devices for mitten crab megalopae such as light traps, it is necessary to be able to identify their larvae in collected samples. Thus, the main objective of this work was to develop a means to distinguish mitten crab megalopae from other native and invasive brachyuran megalopae inhabiting the San Francisco Bay Estuary. The minimal amount of mitten crab megalopae found in light trap samples may be linked to the recent decline of mitten crab zoeae in San Pablo Bay. Plankton tow surveys show that E. sinensis zoeae numbers have been declining in recent years. Zoeae abundance peaked in 2003 with a CPUE of 4034.7. In 2006 and 2007, months with peak abundance had a CPUE of 9.8 and 8.1, respectively. In 2008, no mitten zoeae were found in plankton tow surveys.

No adult crabs have been found in otter trawls conducted by the California Department of Fish and Game since 2006. Drops in water temperature are likely responsible for the decline in mitten crab zoeae and subsequent low abundance of E. sinensis megalopae in this region. Like mitten crab population crashes in other countries, our data may show a temporary decline in what is probably a recurring population cycle of extreme abundance followed by rapid decline.

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STUDY ON NEXT GENERATION TECHNOLOGY SYSTEMS AND THEIR DEVELOPMENTS FOR FOOD AND AGRICULTURE

The objective of this research is to study the trends in the technology systems as applied to food and agricultural fields. The food and agriculture industries are in a state of change driven by the cost of operation and maintenance. The change is also driving the need for technology solutions and IT (Information Technology) equipment that can enable the food processing and packaging and agriculture industry to become more lean, agile, and productive. In recent years such compelling pressures as operational flexibility, networked control, and state-of-art-technology regulations, quality control, productivity and last but not the least environmental issues have motivated the industry to search for strategic ways to fulfill factory wide automation, control and management requirements. As an instance, for automation and control solutions several fieldbus systems conforming to different standers are in use since a decade. It can be noted that that a dedicated fieldbus for food and agriculture industry does not exist. As such, there is a requirement to provide an informational document that can help find the clue in selecting the appropriate fieldbus systems for such applications. This is just one example. Considering food and agricultural industry as a whole this research deals with gathering and documentation of relevant technology related information while focusing on the next generation technology systems and their developments. Further, because, new processing plants small to large including renovation and modernization sites are emerging in order to restore the economy, there is a pressing need to provide appropriate information in response to wide range of available technology which can cater the need of demanding automation and management requirements. Bearing in mind that California has approximately 3300 of food industries, with 79,000 farms, and 240 commodities and trade associations, the importance of this data is significant.

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THE OXYGENATION AND OXIDATION OF Bis(o-ethyl-L-cysteinato) Nickel(II): A STUDY OF TOXICITY TO ZINC FINGERS

Zinc fingers are small proteins found in the body and serve in the transcription of DNA and RNA, controlled cell death, cell proliferation and cell signaling. The zinc serves a structural role, meaning that its function it to create a loop in the protein. The zinc in zinc fingers is often ligated by two nitrogens from histidine and two thiolate sulfurs from cysteine.

Both zinc and nickel are found in the body; however, only zinc has known physiological roles. Nickel, in contrast, is a common skin allergen and carcinogen. ZnN2S2 containing model studies by Golden and coworkers have shown that nickel easily displaces zinc. Oxidative damage to the nickel replaced zinc finger is one process that can stop the transcription of

RNA and DNA and in turn cause cancerous growth. Bis(o-ethyl-L-cysteinato)Nickel (II), Ni(cysE)2, is a representation of the nickel transmetallated zinc finger. UV-vis studies show absorptions of light by Ni(cysE)2 at 489 nm, 384 nm, and 408 nm. These peaks indicate both oxidation (loss of electrons) and addition of oxygens to the sulfurs of the compound.

Oxygenation and oxidation appears on the thiolate sulfers of the cysteine ligand. IR studies show the characteristic bands of metallosulfones (di-substituted sulfurs) and metallosulfoxides (mono-substituted sulfurs) at 1210 cm-1, 1010 cm-1, 950 cm-1, and 910 cm-1.

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PROTEOMIC EVALUATION OF PESTICIDE-RESISTANT BREAST CANCER CELL LINES

There is considerable evidence linking cumulative and sustained exposure to estrogens as a key promoter of breast tumor proliferation. Chemicals with estrogenic activity can bind to the estrogen receptor (ER) to affect downstream signaling of estrogen-responsive genes. Organochlorines are a class of chemical pesticides that can act as xenoestrogens to disrupt normal endocrine function. Methoxychlor and Toxaphene are two organochlorine pesticides that have been widely used in California. Statistical data suggest that past use of these pesticides shows a positive association with age-adjusted incidence of breast cancer in Hispanic women in Central California counties. This study investigates the link between these pesticides and molecular mechanisms of breast cancer by examining the hypothesis that Methoxychlor and Toxaphene exposure induce differential molecular pathways in a cell culture model utilizing cell lines that are either ER positive (ER+) or ER negative (ER-).

The two breast cancer cell lines, MCF-7 and MDA-MB-231, were used as a model for evaluating the differences of the cell lines in response to treatment with Methoxychlor and Toxaphene. Cytotoxicity studies were performed and demonstrated that the sensitivities of two cell lines to the pesticides are different. The MCF-7 cell line (ER+) was more sensitive to both pesticides supporting the premise that organochlorines may be acting as endocrine disruptors.

Furthermore, pesticide-resistant clones of MCF-7 and MDA-MB-231 were established and compared to their sensitive counterparts. We have focused our efforts on the mitochondrial proteome due to its role in cellular detoxification and apoptosis. Thus, the mitochondrial proteome of pesticide-resistant cells was compared to that of non-resistant control cells. We report here the positive identification of several differentially expressed proteins. These results provide a basis for understanding specific pesticide-induced molecular mechanisms and their possible relationship to ER+ and ER- breast cancer.

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SYNTHESIS AND CHARACTERIZATION OF Ni(bis(O-ethyl-L-cysteinato))

Our research group is doing work to investigate the transmetalation of the zinc metal center with a nickel atom in zinc finger molecules and its impact on the protein function. Zinc fingers are organometallic proteins with a finger-like chain of amino acids that interacts with certain base pair sequences and among other things assist in the repair of DNA. Free metal cations exist in the body naturally or can be easily introduced so the study of their impact on proteins is highly relevant.

Due to the complexity of a zinc finger molecule, a similarly coordinated model compound (bis(O-ethyl-L-cysteinato)Zn(II) , Zn(cysE)2) will be used because it retains the immediate coordination sphere around the metal atom center (N2S2) while being easier to study in the inorganic chemistry laboratory.

My individual project involves a molecular synthesis of a trimetallic compound Ni(II)(bis(O-ethyl-L-cysteinato)Ni(II)), Ni(Ni(cysE)2)2. In this case, a Ni atom has already replaced the Zn metal center from the model compound. In the proposed synthesis reaction, two of these monomers Ni(cysE)2 will combine with a free nickel to create the trimetallic molecule in a two to one mole ratio.

Preliminary work has been done to create the molecule in a similar fashion to the synthesis on the Ni(cysE)2 compound, where Ni cations were added to a solution containing excess ligand (in this case the complete Ni(cysE)2 compound).

Analysis by UV-Vis spectroscopy of the isolated crystals showed peaks in the desired locations (410nm and 495nm) however there were extra peaks near 300nm indicating byproducts.

Three avenues will be explored to improve the synthesis. First negative counter ions will be added to the reaction mixture in order to help direct the formation of the desired product. If this is unsuccessful, an ion exchange chromatography column will be used to separate the desired product from any byproducts. The third option is to grow crystals, but this option is not preferred because it could take a long time.

Characterization of the composition and structure by X-ray crystallography, ESI NMR, and elemental analysis will give a concise picture of the molecule. These results will be used as a basis of comparison in related projects in the study of the zinc finger model compound within the research group.

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DIPTERAN SPECIES RICHNESS AND ABUNDANCE ON RE-VEGETATED AGRICULTURAL LAND

The Endangered Species Recovery Program is supervising land restoration in southwest Fresno County through the federally funded Land Retirement Project. The reclaimed land is adjacent to currently farmed land, and there is grower concern that native vegetation on the reclaimed land will function as a reservoir for insect pest infestation. The purpose of my research is to conduct an initial inventory of diptera present on some of the California native plants that are utilized in habitat restoration by the Endangered Species Recovery Program in southwest Fresno County. This research will provide preliminary information on the trophic guild structure of the Diptera within this community and the potential amount of ecological redundancy present within this ecosystem. It will also provide baseline data for future research.

Samples were taken from three herbaceous annuals (Helianthus annuus, Heliotropium currassavicum, and Wislezenia refracta) grown within the Endangered Species Recovery Program's nursery near Tranquillity, California. Comparison samples were also taken within Fresno County in the general area surrounding Tranquillity. Collections were made using an insect sweep net and an insect suction sampler between May and September of 2004 and 2005. All diptera collected were keyed to genus and placed within a voucher collection at California State University, Fresno. Statistical analysis has been done to determine differences between the sites.

There was significant difference in pest status due to host plant, collection method, month and year of collection, and climate variables. Although there was no significant difference on month or year in collection of genera, there was significant difference in Family collected. No significant difference was found between collection sites in taxa collected, niche, number of diptera collected, and pest status. Consequently, prevalence of pest species is due more to host plant and environmental variables than location.

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INSECTICIDE RESISTANCE AND THE EFFICACY OF GROUND ULV APPLICATIONS IN FRESNO COUNTY, CA

During July – September, 2009, ground ultra low volume (ULV) applications of various, registered mosquito adulticide formulations were evaluated in a field assay against wild populations and an insecticide-susceptible, laboratory colony of Culex pipiens sensu lato. Initial applications with piperonyl butoxide (PBO) synergized formulations of natural pyrethrins and selected, synthetic pyrethroids indicated that the wild populations in question had varying degrees of resistance to these products. Laboratory bottle-bioassay testing confirmed these observations.

Adult female surveillance using carbon dioxide baited CDC traps and bermuda grass infusion gravid traps were also utilized to quantify population impacts of ground ULV applications. There was no significant difference in pre and post treatment collections made at sites throughout the treatment area. Surveillance collections further supported the assumption of resistance and a lack of measurable control.

A combination of malathion (Fyfanon®) and natural pyrethrins, synergized at 10:1 with PBO, had significant resistance-breaking properties. Previous studies indicated that resistance to pyrethrins/pyrethroids is likely to come at a cost to resistance of organophosphates (malathion) and vice versa. Further tests with the combination showed that within urban neighborhoods the average mortality of caged, wild mosquitoes was no more than 57% over a 300 ft. swath (one city block distance). In rural sites within mature cornfields and fruit tree orchards, average sentinel, wild mosquito mortalities of 26% and 33% over 300 ft. swaths, respectively, were achieved.

This study demonstrates the existence of significant pesticide resistance in wild Cx. pipiens s. l. populations in Fresno County; as well as the impact of barriers in urban and vegetated rural environments on drift, effective swath and reduced efficacy of ground ULV applications. It also further illustrates the need for new adulticide formulations and product chemistries.

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DISPARITIES IN CANCER SURVIVAL WITHIN THE SOUTH ASIAN POPULATION OF THE UNITED STATES, 2000-2006

The South Asian (SA) population in the United States is believed to be a 'model minority' as regards health status, and few cancer survival studies have been conducted in this population and none have reported an overall cancer survival picture.

We evaluated cancer survival in California SAs and compared this to SAs in the rest of U.S, because California SAs differ demographically from SAs outside of California. Using cancer patient data from the National Cancer Institute's

Surveillance, Epidemiology and End Results program, for the years 2000-2006, we evaluated relative survival and stage at diagnosis in California SA, SA outside of California and for non-Hispanic Whites (NHW) in California. Except for oral cancers, California SA fared worse for cancer survival as compared to non-California SA. Survival for lung & bronchus cancer, uterine corpus cancer, and urinary bladder cancer was significantly worse in California SA in comparison to non-California SA. California SA women fared worse than California NHW females for all gender specific cancers. Late stage of diagnosis was consistently found more frequently in California SAs compared to non-California SA. Therefore, the belief that SAs in the U.S. experience better cancer survival compared to other races in the U.S. is not supported in this analysis.

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RENEGOTIATING THE RACIALIZED CLASSROOM SPACE: RACE AS PRESENCE

Speaker 1, a Chicana female, discusses the FYW classroom as racialized "enclosures," constructed of bodies with (over)determined outcomes and engagements. According to Prendergast (1998), race is an "absent presence" in composition studies and classrooms; however, by considering the ways bodies create racial enclosures in the classroom, this presentation shows how race can be made present and seen. Using Raymond Williams (1973) who defines "enclosures" as areas created through capitalist production that result in the separation of people, enclosures are areas that organize, shape, and construct certain elements and/or human outcomes. Racialized enclosures, manage difference, which then can often impose silence in racialized ways. This presentation retheorizes Williams' idea to invent a new concept, racialized enclosures, useful for understanding the writing classroom as a set of racialized geographic spaces that may reproduce particular social relations, kinds of engagement, or learning outcomes. The purpose of this presentation is to offer one way to theorize the classroom as a set of racial enclosures that affect pedagogy and learning. Additionally, the speaker will offer one example lesson used in a FYW course that attempts to address and renegotiate the racial enclosures of the class.

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THE EFFECTS OF CORTISOL ON THE HORMONAL REGULATION OF APPETITE IN THE TILAPIA

In response to a stressor, an animal's physiology is altered to maintain balance, or homeostasis. Cortisol mediates the stress response by coordinating a set of physiological changes, allowing an animal to restore homeostasis after a stressful event. In fish, an often overlooked consequence of stress is a reduction of food intake. Food intake has been shown to be stimulated by the stomach hormone ghrelin, whose actions are mediated by neuropeptide Y (NPY) in the hypothalamus..

To date our understanding of the role of cortisol in regulating food intake in fish is minimal. This study investigated the short-term effects of cortisol on the hormonal regulation of appetite in the tilapia (Oreochromis mossambicus).

Animals were given a single intraperitoneal injection of cortisol, cortisol + RU-486 (a pharmacological agent that blocks cortisol's action), or vehicle only (control). Tissue and blood samples were collected at 24 h post-injection. Brains were divided into two sections, the frontal region (telencephalon), and the central region (diencephalon), which contains the hypothalamus; the feeding center of the brain. mRNA levels of ghrelin, as well as each ghrelin receptor isoform (GHS-R1a and -1b), and neuropeptide Y (NPY), were measured from brain. Plasma ghrelin levels were also measured. Plasma ghrelin, as well as ghrelin, NPY, and GHS-R 1b mRNA levels were suppressed by cortisol in the telencephalon.

Treatment with RU-486 blocked the observed cortisol effects. GHS-R 1a was not affected by any treatment. However in the diencephalon, ghrelin mRNA was unchanged by cortisol, but increased by RU-486, NPY and GHS-R1a were suppressed by cortisol and remained suppressed in response to RU-486, and GHS-R 1b was not affected by any treatment. These results suggest that acute cortisol treatment – simulating a stressful event – suppresses the endocrine signal, ghrelin, and may suppress its downstream effects on appetite.

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THE EFFECTS OF VERBAL ABUSE ON ADOLESCENT MALES: AN ATTACHMENT THEORY PERSPECTIVE

Recently there has been attention given to the study of neglect, physical, sexual and to a lesser extent emotional child abuse in the United States and abroad. The current study considers verbal abuse from an Attachment Theory framework.

Attachment theory states that the way in which initial attachments are completed establishes and strongly influences all future relationships (Bowlby, 1969). There is growing evidence that the pattern of attachment that an individual develops during the years of infancy, childhood, and adolescence is strongly influenced by the way his parent or primary caregiver treats her or him (Bowlby, 1988).

In total 153 late adolescent males from non-clinical settings such as sport teams and church groups throughout Northern California participated in the study. Participants were asked to complete a series of questionnaires.

The first hypothesis; males who experienced verbal abuse from mom, dad, or a primary caregiver during childhood or adolescence will have less secure adult attachments than males who did not experience verbal abuse, was found to be statistically significant. The second hypothesis, that individuals who experienced parental verbal abuse would have higher current levels of loneliness, shame, depression, and suicidal ideation was partially supported. Participants that reported parental verbal abuse from mom only or both mom and dad, had significantly higher levels of loneliness, shame, and depression than those that did not report any parental verbal abuse. Contrary to the hypothesis those who only experienced verbal abuse from dad did not show increases in any of these variables. Participants with no history of parental verbal abuse had fewer reported suicide attempts compared to participants that experienced verbal abuse.

Overall, the findings support the recent literature on parental verbal abuse. This under studied form of abuse has strong and lasting impacts.

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EVALUATING THE EFFECTS OF THE kNOw MORE PEER-EDUCATION PROGRAM ON RELATIONSHIP ABUSE

With the issue of domestic abuse on the rise and funding to battle the problem dwindling, peer-education projects like kNOw More (Know Your Limits – No Abuse) have become increasingly important. The kNOw More program, based in Fresno, CA, trains peer-educators to deliver emotional presentations about teen relationship abuse to students in their high schools. The current research evaluates two separate aspects of the program: 1) its effectiveness in raising awareness of relationship abuse and its influence on counseling self-efficacy among peer-educators and 2) its effectiveness in raising teenagers' awareness of relationship abuse and their knowledge of how to get help.

For the first evaluation, high school students accepted as kNOw More peer-educators for the 2009/2010 school year were recruited. Approximately 100 students attended the 2-day, 24-hour peer-educator training camp and were offered pre- and post-training surveys. Eighty-three peer-educators (51 females and 32 males aged 13 to 18) completed both the pre- and post-measures. The second evaluation analyzes archival data collected by kNOw More in the 2008/2009 school year.

More than 5,000 students are represented in this anonymous data, which comes from 16 high schools and one intermediate school in Fresno County.

Results of the first evaluation, which was analyzed with dependent-samples t-tests, indicate that kNOw More peer-educator training significantly increased peer-educators' awareness of relationship abuse and counseling self-efficacy. Evaluation two, a descriptive analysis of pre- and post-presentation data, indicated that the kNOw More presentation increased students' awareness of relationship abuse as well as their knowledge of how to get help.

Results suggest that peer-education programs like kNOw More may be a viable first step in raising awareness about relationship abuse and thus preventing it. Discussion will include promoting these kinds of programs in schools.

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THE REAL EXCHANGE RATE AND THE CURRENT ACCOUNT

This paper investigates the joint dynamic response of the current account and the real exchange rate to permanent and temporary shocks using structural VAR models for seven developed and five developing countries. Due to the ambiguity of the unit roots test, model specification based on both stationary and nonstationary current accounts are employed. Capital flows are also included to capture external shocks as well as potential structural breaks due to financial liberalization.

We find that the differences between the results when current account is modeled as stationary and nonstationary are non-trivial. Current account is mainly driven by temporary shocks such as monetary shocks or disturbances while real exchangerates fluctuations are dominated by permanent shocks.

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MULTIRESOLUTION TECHNIQUE BASED ALGORITHM FOR SENSOR FAULT DETECTION AND ISOLATION

One of the important research domains of the industrial systems is the automation and control. The next generation automation and control systems demands sophisticated condition monitoring strategy in order to achieve higher reliability.

The qualitative and quantitative indices of reliability have been studied and reported. The recent developments in soft-computing methods and tools and their implementation scenarios have also led to establishing a stronger foundation for smarter systems. The condition monitoring approaches are now being extended through the application of new theories, techniques, tools, and methods. The objective of this research is to study a new condition monitoring strategy in terms of

Fault Detection and Isolation (FDI) scheme for a class of sensor systems used in automation and control solutions for industrial systems. The objective was set taking into account of the fact that the research and development activities in this field is not much. This research is directed to study an appropriate scheme for FDI of a typical sensor. The work also presents a comprehensive study on other FDI approaches. FDI scheme is developed for simple transducers which are widely used. Because, it is now possible to incorporate processing power at the sensor level with the rapid developments in embedded technology for improved programmability and flexibility, the use of PC, computing language and DSP platforms play important role in this work. The proposed FDI approach is based on multiresolution decomposition technique. In order to develop FDI algorithm, appropriate methodology and supporting tools such as MATLAB, DSP (Digital Signal Processor) technology, PC platforms, and GUI-based programming tools are used. These tools and systems are chosen because of their powerful architectural advantages, low-cost features, and compatibility. In summary, the work embodies literature review, methodology, formulation, framework, results, discussions, conclusions, and future directions.

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6-OXOVERDAZYL REACTIVITY WITH PREOXIDES

Verdazyls are stable radicals that can be synthesized with a variety of substituents at the 1, 3, and 5 positions. The stability of these verdazyls depends on different substituents. Substituents contribute to verdazyl stability by providing steric bulk, resonance delocalization, and lone-pair repulsion to suppress its reactivity. There are two types of verdazyls differentiated by the substituents at the sixth position of the ring. The first type has a sp3 carbon at the sixth position.

This type also has a half boat conformation. The second type has either a carbonyl or thiocarbonyl group at the sixth position, and also has a planar geometry. There have been many studies on verdazyl chemistry, but little is known about their reactivity or about compounds that can alter the ring constituents of the verdazyl. In order to better utilize these radicals in applications such as spin probes for biomolecules, and catalysts for radical polymerization, we investigate their reactivity towards a variety of peroxides. In particular, we report the reaction of 1,5-diisopropyl-3-phenyl-6-oxo-verdazyl with t-butyl hydroperoxide in two different solvents: benezene, and tetrahydrofuran (THF). In addition, we report the reactions of 1,5-diisopropyl-3-phenyl-6-oxo-verdazyl with variety of peroxides such as dimethyl dioxirane, azobisisobutyronitrile (AIBN), and m-chloroperoxybenzoic acid (mcpba). The reactions were investigated by UV-vis, NMR, and GCMS to determine the kinetics and products of the reactions. Reaction kinetics shows auto-catalysis under conditions of excess peroxide. Possible mechanisms of reaction will be discussed.

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THE EFFECTS OF FASTING AND RE-FEEDING ON THE NEUROENDOCRINE CONTROL OF APPETITE IN TILAPIA, Oreochromis mossambicus

Appetite is coordinated primarily in the hypothalamus which integrates orexigenic and anorexigenic signals from the brain and peripheral signals (i.e. metabolic and hormonal). Ghrelin a novel gut peptide – stimulates appetite in both mammals and fish: its orexigenic actions are mediated by stimulating neuropeptide Y (NPY)-containing neurons in the hypothalamus.

Lack of adequate food resources is a constant environmental challenge faced by fish. In spite of this knowledge, our understanding of the hormonal control of appetite during fasting and re-feeding in fish is limited. The current study investigated the effect of fasting and re-feeding on the neuroendocrine control of appetite in the tilapia (Oreochromis mossambicus). Tilapias were subjected to three treatments: fasting for 30 days; fasting for 21 days and re-fed for 9 days; and fed for 30 days (control). Fasting resulted in a significant reduction in growth. Re-feeding reversed the negative effects of fasting on growth. Brain ghrelin mRNA levels were significantly reduced by fasting. Re-feeding for 9 days elevated brain ghrelin mRNA levels, but these levels were not significantly different from either control or fasted fish. Fasting for 30 days did not alter brain mRNA levels of NPY or the ghrelin receptor (GHS-R1a). These data suggest that tilapias are well adapted to a 30 day fast, since NPY mRNA levels (possibly NPY activity) were unaltered by a 30 day fast. Further, our data suggest that brain derived ghrelin may be functioning as a metabolic signal and not as an orexigen. This work was supported by the NSF (IOS-0639771) awarded to LGR.

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ANTIBIOTIC FUNGI AND PROTEINS IN THE DIET OF SMALL PRIMATES OF PANAMA

Tamarins in rainforest canopies of Panama were studied in an effort to understand specific qualities of a small primate's diet in regards to small organisms residing in or on consumed foods.

Tamarins were studied on Isla Barro Colorado and Aqua Clara Bay, Panama Canal Zone, in 2008. Samples of foods consumed by these small monkeys were examined microscopically, and some of the organisms found growing on or in these foods were grown on various nutrient agars.

Tamarins consumed a broad range of foods, which included large insects, fruits, figs inhabited by populations of tiny larvae, and fruits coated with or infested with filamentous fungi that retarded the growth of some bacteria in petri plates.

Generalized description of a small primate's diet in the wild, as found in much of the literature on tamarin monkeys, does not appear to address the potential for a highly selective microbial foraging strategy. Along with their search for staple food items, tamarins may also selectively forage on foods contaminated with small organisms that are sources of trace proteins and antiobiotic compounds.

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THE LEVYING OF TWO MATTHEWS: DISCOURSE AND SYMBOLISM

Choreographer Matthew Bourne's version of the ballet Swan Lake made its American debut in 1998, two days after the murder of Matthew Shepard, a gay man from Laramie, Wyoming. At the same time that national news outlets and political protests martyred and vilified Shepard, the media coverage about Swan Lake centered around Bourne's nontraditional casting of men in the roles of the swans. The extremely emotional and polarizing public debate about Shepard contrasted with the intellectualized and carefully constructed public conversation about Bourne's ballet. This revised version of Swan Lake includes a prince and male swan dancing together and mirroring a traditionally romantic storyline, and as a result the reviews of the production focused on the homoerotic themes and debated whether it ought to be interpreted as a "gay" ballet. At the time of Bourne's Swan Lake's premiere and Shepard's death, mainstream audiences in the U.S.had already been introduced to homosexual themes in the arts. Even though the cultural acceptance of homosexuality had the potential to increase across the country, other anti-gay movements and groups challenged the progress that gay rights was making. This paper examines the reviews of Bourne's Swan Lake and the contemporaneous discourse surrounding the brutal crime committed against Shepard. The public dialogue about each of these two events, with themes of homosexuality and personhood, unfolded in very different ways. The artistic medium of ballet allowed a provocative conversation about

Bourne's dance which was both related to and distanced from the emotionally charged discourse surrounding Matthew Shepard's murder. This paper contends that the arts' ability to open up nuanced and provocative public conversations about political issues promotes and enables a kind of cultural change that is distinct from that created by debates sparked bycurrent events and the news media.

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BEHAVIORAL PREDICTIONS OF WOMEN INMATES: THE UNFORTUNATE EFFECT OF LOW FACIAL PROMINENCE

Are predictions of prison inmate behavior influenced by facial prominence and the type of crime one commits? Research shows that facial prominence, gender, and perceived occupation interact and influence prospective job applicants' occupational fitness. Previous research has defined occupations on an intellectual-physical continuum, but what about crimes that follow the same continuum? In this study, students judged hypothetically convicted criminals portrayed with differing levels of facial prominence. Results suggest that people who commit a physical crime, as opposed to a crime of intellect, are predicted to exhibit more negative behavior while incarcerated, and increasingly so for women who are depicted with low facial prominence. Here, students completed a judgment task that examined whether differing levels of facial prominence paired with different types of crimes would influence thought about behavior while incarcerated. Results suggest that an incongruence between crime physicality and facial prominence leads to higher predicted levels of negative prison-related behaviors, but not positive prison-related behaviors, for women, but not for men. When crime information (e.g. a brief description of a crime) is paired with a picture of a hypothetical inmate (i.e. either high or low facial prominence), facial-framing influences predicted prison-related behavior differently across inmate gender, regardless of rater gender. These results suggest that an incongruence between the committed crime's physicality and facial prominence leads to higher levels of predicted negative prison-related behaviors for women but not for men. Future research will explore to what degree raters' judgment of crime "physicality" influence these types of behavior predictions.

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THE EFFECTS OF A GLUTAMATE AGONIST, L-BMAA, ON MOTOR-MOVEMENTS OF ADULT FRUIT FLIES

Beta-N-methylamino-L-alanine (L-BMAA) is an environmental neurotoxin that is potentially a glutamate agonist. L-glutamate is considered to be a major neurotransmitter of the neuromuscular junction and the neuromodulator in the central complex of the central pattern generator of insects. L-BMAA is suspected to cause neurotoxic effects on the motor output regions. To further understand the neurotoxic effects of this glutamate agonist, we subjected adult fruit flies to the neurotoxin and quantified their locomotor behaviors and their geotactive movements. The fruit flies were fed three different concentrations of L-BMAA for four consecutive days. For the experiment, the flies were transferred to a walking arena with a concave floor and a flat ceiling and filmed for 10 minutes each day. We observed that flies treated with the two lowest dosages spent more time walking. The treated flies did not walk more often; however, their walking bouts were longer than the control flies. Fruit flies are negatively geotactive, which means they move up and away from the center of the earth. Compared to the control, fruit flies treated with L-BMAA showed a dosage-dependent decrease in the ability to climb up a slope and onto the ceiling of the walking arena. At the highest concentration of the neurotoxin, the flies showed severe motor disability. These flies walked less than the control flies, tremors were also a distinctive feature, and they lacked the ability to stand or right themselves after a fall.

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MECHANISM OF THE REACTION OF PROPYLENE OXIDE WITH CHLORINE ATOMS

Propylene oxide (PPO) is a pesticide that has been proposed as a potential alternative for some of the current applications of methyl bromide, which is now banned because of its impact on the ozone layer. However, the effect of its use on regional air quality is not known because its atmospheric chemistry has not been studied. In this study, the chemical pathways via which PPO is degraded in the atmosphere have been investigated.

Experiments were carried out in a 142 L Teflon-lined smog chamber. Gas phase reactants were introduced into the reactor, and chemical reactions were initiated with ultraviolet (UV) light using internally mounted black light lamps. The chemical composition of the reactor was investigated by Fourier Transform Infra-Red (FTIR) spectroscopy. Chlorine atoms were used to initiate the chemical degradation of PPO. Additional experiments were carried out with methyl acetate since the atmospheric chemistry of this species is expected to be similar.

Acetic acid, acetic formic anhydride (AFAN), carbon monoxide (CO) and formic acid are the major reaction products from both the Cl + PPO and the Cl + methyl acetate reactions. Measured product yields are YAcetic Acid = 0.18, YCO = 0.2, YFormic Acid = 0.25 and YAFAN = 0.4 for methyl acetate, and YAcetic Acid = 0.38, YCO = 0.5, and YAFAN = 0.72 for PPO. The measurements are consistent with H-atom abstraction from the secondary carbon of PPO as the major reaction pathway for this species. The atmospheric implications of these measurements will be discussed.

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CANINE HEARTWORM (Dirofilaria immitis) IN FRESNO AND MADERA COUNTIES, CA: PREVALENCE DIFFERENCES BETWEEN FOOTHILL AND VALLEY FLOOR HABITATS

The purpose of this study was to evaluate presence of heartworm antigen in domestic dogs in Madera and, for the first time, Fresno counties and test for the effects of habitat and other environmental variables on prevalence. Dogs were screened for heartworm via PetChek® ELISA from blood samples (N= 519) collected at seven sites during April-July 2009. Eighteen dogs were heartworm antigen positive. Pearson Chi-square analyses were run on the presence of heartworm versus the following variables: elevation range, percentage of time spent outdoors during the day, percentage of time spent outdoors during the night, pet coat length, weight class, prevention status, and sex. Dogs that spent at least 50% of their time outdoors during the day were significantly more likely to have heartworm that those who spent less time outside ($N = 519$, $df = 1$, $p = 0.031$). Overall prevalence (3.47%) was lower than expected with Madera County having 3.8% positive samples and Fresno County 3.5%; this prevalence is lower than many previous studies. The effect of time spent outdoors on heartworm prevalence was similar to previous studies. The effect of elevation, though not significant, requires further investigation, as does the prevalence of larval stages in mosquitoes.

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FACTORS INFLUENCING THE MATRICULATION DECISIONS OF APPLICANTS TO THE JORDAN COLLEGE OF AGRICULTURAL SCIENCES AND TECHNOLOGY AT CALIFORNIA STATE UNIVERSITY, FRESNO

The purpose of this study was to examine recruitment efforts as they affect the decision-making processes of students entering the Jordan College of Agricultural Sciences and Technology at California State University, Fresno and those students who choose not to attend the university. The target population for this descriptive census study consisted of all applicants who were admitted to the college for the fall 2008 semester (N = 963).

Data were collected through a questionnaire consisting of 74 items administered online and participation was requested via email to all students in the population. A total of 171 usable instruments were received, resulting in a response rate of 18%.

Non-response error was controlled for by comparing early and late respondents on variables selected prior to data collection.

When examining recruitment practices, both groups reported the most useful sources of information to be personal contact with faculty, visits to campus, and website information. Notable differences were found between groups in the use of particular information sources. Personal conversations with faculty were used by 63% of students who chose to attend the university while only 23% of those who chose otherwise. On campus student events, such as FFA and 4-H events were used by 53% of the matriculant group compared to 38% of non-matriculants. University and departmental websites were used by at least two thirds of students in each group and were reported to be some of the most useful sources of information.

Findings suggest that web-based information is critically important to prospective students. Furthermore, results show the importance of the college's support of on-campus outreach events as these activities showcase the college's programs and facilities and allow faculty to interact with prospective students and their parents or guardians, which were found to be the most influential people in students' college decision making process.

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DECISION-MAKING IN A CONFIDENCE-BASED GAMBLING TASK

The developing field of behavioral economics has attempted to reconcile economic and psychological theories of human decision-making behavior under conditions of risk or uncertainty. Previous research has indicated that when presented with fundamentally equivalent decision-making situations differing only in how they are framed, people tend to make greater risky-decisions when losing than when gaining reinforcement such as points or money. The primary objective of this study was to test this "framing effect" in a simple decision-making task based on an individual's perception, memory and confidence.

Participants were divided into three groups: 1. Gain only (n=43), 2. Loss only (n=45), and 3. Both gain and loss (n=47). Individuals completed a computer-based perception task with the objective of maximizing earned points. Each trial consisted of a delayed-matching-to-sample task (DMTS), followed by a rate of confidence and finally an opportunity to risk or play-it-safe to gain or lose points. Results showed a strong framing effect -- participants in the loss group risked significantly more when compared to participants in the gain group. Also, in the combined gain/loss group, participants risked more on loss trials than gain trials. In addition, there was also a framing effect for confidence; that is, individuals were more confident in accuracy on the DMTS task when they lost points on each trial. This confidence framing effect has not yet been measured in contemporary behavioral economics literature.

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CULTURAL INTERPRETATIONS OF LONDON: A PANEL OF ETHNOGRAPHIES FROM ACROSS THE POND

For over twenty-five years, the College of Arts & Humanities has offered "London Semester" to students' campus-wide. InSpring 2009, these four undergraduate researchers participated in London Semester and enrolled in the course "Cultural Interpretations of London." This course, taught by Dr. Moreman, required them to do ethnographic fieldwork within a London context for the purposes of understanding more about London culture and in turn learning more about themselves.

Coming from a wide array of majors (Political Science, Art, Business and Interior Design), they individually approached the study of their site with different tool sets, different interests and, of course, different outcomes. However, with ethnography as their methodology, they all sought the same goal: to understand how culture is created and maintained in everyday life by focusing on people communicatively enact and resist societal norms and expectations. The following panel is composed of four studies that individually offer interesting insight into London. However, when the four presentations are heard across one another, they also offer interesting and important insight into everyday life both here and afar.

Panelist #1: Kaelyn Rodriguez
Art major, "The Evolution of Walls: London Graffiti on the South Bank."

Panelist #2: Jennifer Zenovich,
Political Science major, "Homeless Bound: The Mystery of the Homeless in London"

Panelist #3: Paw Vue
Interior Design major, "London Karaoke: The Freedom to be Weird"

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INTERROGATION OF EVIL: HUMAN FAULT IN UNDERSTANDING NATURAL FORCES

The purpose of this paper is to arrive at an original solution to the 'problem of Evil' through way of comparing previous works by Western and Eastern philosophy with an original theory. I first question the contemporary view of Evil and the problems with this interpretation, noting that it is superficial. I then define Evil as a subjective value determined by human imagination and argue the objectivity of Evil. I argue Evil is not objective but is a manifestation of the human imagination in order to understand and accept malicious events.

To support my claim, I probe two philosophical interrogations and a Hindu mythological account on Evil. I explore the sublation of Evil and its determination by finitude and infinitude as described by Hegel. Following a more contemporary analysis, I review Badiou's novelty of the idea of Truths and the obstruction of, which is determined Evil. Through an analysis of Hindu mythology, Evil and Good are coeternally equal, and one's dharma, varying on different levels, can be either Good, Evil, or both.

Given the results of my interrogation of Evil, I find the arguments presented by Hegel, Badiou, and Hindu mythology to be relatively similar. These philosophies state that it is necessary to diverge from the Good, Infinite, or Truths in order to aspire to the Good, Infinite, or Truths. Moreover, seeing the necessity to sever oneself from the Good, I come to the conclusion Evil is a value manifested by the human imagination acknowledging phenomenal events. It takes an individual to understand what is Good for him, and once discovered, values his conclusion. Evil then is an opposition to him and the Good, another subjective value. Phenomenal events, with the absence human interpretation, I argue, are neither good nor evil until a personal value is superimposed upon them.

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A TAXONOMIC CATEGORIZATION OF MODERN MANUFACTURING PARADIGMS

Companies world over are constantly on the lookout for techniques and practices that will enable them to reduce their operating costs while increasing their market-share thereby generating higher profits. This makes it imperative for them to provide customized products at mass production prices while reducing the design-to-market times and lead times.

There are many techniques available in the research literature today that purport to help companies achieve these often-times contradicting and complex goals. Some of these techniques like lean principles have gained widespread popularity partly fueled by the success story of companies that pioneered them, Toyota for one. However, others like mass customization and agile manufacturing have not yet taken off as well as they should have been. The reasons for this laggard response might be partly due to the lack of understanding of the underlying fundamentals and partly due to the inability to keep up prolific rate at which newer concepts are being brought to fruition.

This work provides a taxonomic categorization of these various paradigms vis-a-vis objectives such as responsiveness, customization, quality, wastes etc. It is envisioned that this would help companies identify specific techniques for their specific objectives as they embark upon this journey of achieving higher profitability through reduced costs and improved customer satisfaction.

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AN EVALUATION OF THE EFFICACY OF SUPPLEMENTAL INSTRUCTION AT FRESNO CITY COLLEGE

Data reveals that community college enrollment in the United States has increased by 743 percent since 1963. In California, which is home to the largest community college system in the world, approximately 1.4 million students are enrolled at 111 institutions. Fresno City College was established in 1910 and is the founding institution of the California Community College system. Evidence reveals 50% of all students who enter various levels of postsecondary education fail to complete a bachelor's degree within six years. Enrollment projections of postsecondary institutions to 2017 reveal substantial increases in student enrollment across racial, age and socioeconomic demographics. If attrition rates continue on the same path postsecondary institutions and the students they serve may experience severe consequences.

The purpose of this project is to evaluate the impact of Supplemental Instruction (SI), a student academic enhancement program, designed to increase student retention, and grade-point averages, leading to increased graduation rates of Fresno City College students. The research question that served to guide this project is: What impact does Supplemental Instruction have on the retention, successful completion and grade-point average of Sociology 1A students at Fresno City College? This evaluation includes final course grades for eight sections of introductory sociology from spring 2008 to spring 2009. The total number of students in the study was 703 of which 520 were offered SI services. In addition, baseline data was collected from the SCCCD's Department of Institutional Research to compare the academic performance and retention rates of SI students against all other introductory sociology courses at Fresno City College. Data analysis reveals a positive correlation between SI participation and increased rates of retention, successful completion and grade-point averages. The establishment of Supplemental Instruction as a permanent student support service at Fresno City College is a core component in achieving the educational master plan.

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UNDERSTANDING AND ADDRESSING FACTORS THAT CONTRIBUTE TO INTIMATE PARTNER VIOLENCE AS EXPERIENCED BY LATINAS

The purpose of this project is to understand factors that contribute to Latinas' risk of abuse by intimate partners. A literature review reveals that stressors related to immigration and acculturation, elevated rates of poverty, and distinct cultural beliefs about gender roles serve as significant risk factors. Preliminary findings based on a workshop conducted with preteen Latina girls suggest educational interventions about respect in relationships may play a key role in reducing Latinas' risk of victimization.

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THE EFFECTS ON NONCONTINGENT REINFORCMENT ON RAPPORT BUILDING IN CHILDREN WITH AUTISM

The current study examined the use of noncontingent reinforcement (NCR) and its effect on building rapport in a therapeutic setting for children with autism. Rapport is a concept long thought as essential to therapeutic benefits in clinical settings. Anecdotal information supports the need for good rapport when working with children with autism as well, and may be especially important given the typical social deficits and urgency of improving quickly for children with autism spectrum disorder. The children are enrolled in the Central California Autism Center at California State University, Fresno, a center-based behavioral intervention program. The current study hypothesized that introducing a noncontingent reinforcement procedure in therapy sessions would increase the number of approaches to the therapist and decrease the number of retreats from therapist and problem behaviors. These results, as expected, were greatest during the implementation of Phase C: NCR every 30 seconds. The study utilized an ABACAB/C (or ACABAB/C) design to determine the functional relationship between NCR and rapport. Phase A was baseline. Phase B was the presentation of NCR every minute, and Phase C was the presentation of NCR every 30 seconds. Results of the study suggest that aspects of rapport can be developed through the use of noncontingent reinforcement in a therapeutic setting for children with autism. Data was recorded by the researcher and inter-observer reliability was calculated to be 87% across all participants and was determined with the help of trained research assistants.

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SHORT-INTERVAL TIME PERCEPTION IN AN ODDBALL TASK: AN ERP STUDY}

The study of human time perception has rarely been conducted using modern neuroimaging techniques. In this event-related potential (ERP) study, we investigated short-interval time perception using an oddball task. In this design a participant was shown the same stimulus (the number 10 in a circle) that either remained on the computer screen for 10 sec (80% of trials) or 6.4 sec (20% of trials). After each trial, participants were asked to respond on a touch-pad whether the trial was actually 10 sec or not. We recorded from nine electrode sites and, as in other oddball designs, we found a larger amplitude of the P300 (positive deflection in voltage approximately 300 msec after an event) on the rare 6.4 sec trials compared with the more frequent 10 sec trials. This difference in amplitude indicates a neural representation of temporal discriminability of these intervals; this despite participants showing poor discrimination in their post-trial responses. These results suggest the existence of an internal timing mechanism.

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TOWARDS THE GENERATION OF TRANSGENIC LINES OF Caenorhabditis elegans AND MELOIDOGYNE INCOGNITA USING THE MICROPARTICLE BOMBARDMENT METHOD

Meloidogyne incognita (Mi) is the most widely spread Root-knot-nematode (RKN) in tropical and sub tropical regions. Plant-parasitic nematodes are responsible for major crop losses across the world. The genuses Meloidogyne is specific to root-knot-nematodes and are a group of major plant pathogens. Caenorhabditis elegans (C.elegans) PCD genes might be useful to combat this nematode efficiently. A major obstacle in applying this strategy more broadly is that we know very little about the early development of plant parasitic nematodes in general and about Mi in particular. Our research attempts to address this by developing the foundation for the study of development in Mi as a model for plant parasitic nematodes.

The specific objectives of our research are: 1) to establish transformation protocols for C. elegans using the gene-gun to generate transgenic lines expressing green fluorescent protein (GFP) in different cell lineages; and 2) to develop transformation protocols for Mi using the gene-gun to generate transgenic lines expressing GFP in different cell lineages.

We focus on using gene constructs with promoters driving expression in muscle cells. GFP expressing genes will be used as the markers to create transgenic lines of C.elegans and Mi.

The gene gun has proven to be an efficient tool in generating transgenic species of various organisms and we will use it here to generate transgenic lines of C. elegans. A plasmid with a muscle specific promoter, myo-3 which expresses GFP in the muscle cytoplasm and a plasmid with unc-54 promoter that expresses GFP in the nucleus of the muscle cells are adhered to gold microcarrier particles, 1.0 μm in diameter. Microcarriers are first mixed in a 1:1 ratio with spermidine. 200 μl supercoiled DNA is added to the mixture and Tefzel tubing was used to make cartridges for the gene gun. Cartridges were shot from a distance of 3cm at a helium pressure of 380psi.

Conclusions reached: a transformation protocol for the gene gun was modified to suit requirements for C. elegans transformation in our laboratory; attempts to transform C. elegans with previously described protocols were unsuccessful.

Helium pressure, the distance from which cartridges are shot and number of cartridges to be shot were modified to obtain desired expression. 12-welled culture plates were used to maintain screened worms that expressed GFP. We have successfully generated two transgenic lines of C. elegans expressing GFP in different muscle cell compartments. We are currently attempting to transform Mi.

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IS RASTA MUSIC! AN INVESTIGATION INTO THE INTERCONNECTEDNESS OF RASTAFARI AND REGGAE MUSIC

Reggae music is a multi-million dollar industry, Jamaica's largest cultural export and the most successful evangelical music in the world. Rastafari is a 70 year old belief-system and worldview. Given the tendency to conflate them, it is important to examine their histories to understand the symbiotic nature of their relationship. The purpose of this study is to uncover the interconnectedness between Rastafari and Reggae music, utilizing various literary sources. To do so, this article assumes four objectives; first to review what Rastafari is, some central figures within the movement, and the more salient tenets and rituals within the belief-system. Second, to link Rastafarian musical rituals to the development of Reggae music.

Third, to chronicle the history of Jamaican popular music to arrive at the genesis of Reggae. Last, to explore the influences Rastafari and Reggae music have had on one another. According to the literature review, Reggae music evolved via the intermingling of cultures during the 1930's and more specifically from Rastafarian drumming, worldviews and lyrical themes. Today, Reggae music and Rastafari continue to thrive utilizing the formula employed during the genesis of these movements, all the while inspiring and inviting new generations to "Listen and Overstand" that is to say, listen to the message and understand its meaning.

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THE IMPACT OF THE COLLEGE ASSISTANCE MIGRANT PROGRAM ON MIGRANT STUDENT ACHIEVEMENT IN THE CALIFORNIA STATE UNIVERSITY SYSTEM

The purpose of the study was to analyze the College Assistance Migrant Program (CAMP), a student services intervention, to determine its impact on migrant student achievement in the California State University system. The participants included 336 migrant students who were enrolled as first-time, full-time freshman in fall 2002 from 6 of the 23 CSU campuses with CAMP federal program funding. The comparison groups were Latinos and other students from the general student population for a total of 9,698 student level data records.

The study intended to address one overarching research question: Does the CAMP intervention have an impact on student academic achievement? The Analysis of Variance (ANOVA) and Chi-Square Test of Independence were used to explore differences between CAMP, Latino, and other students from the general population for persistence, first year and cumulative grade point average, and baccalaureate degree attainment.

Findings reported that CAMP was having a positive impact on migrant student participants enrolled in the program. CAMP students were found to have higher persistence, first year grade point average, and cumulative grade point average than the two comparison groups. In addition, CAMP students were found to be performing at the same level of Latino and general population students for baccalaureate degree attainment.

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PROGRESS TOWARD PREPARATION OF Gd and Nd NANOPARTICLES

Magnetic nanoparticles have potential applications in various fields, for example biomedicine and magnetic information storage due to their reduced size and magnetization properties. The focus of our current research is on the synthesis of gadolinium (Gd) and neodymium (Nd) nanoparticles. Our interest in these rare-earth elements is based on the unusual magnetic behavior, such as enhanced magnetization and reduced magnetic ordering temperature that arises at the nanoscale level.

Our motivation for this research is to determine the appropriate procedure to synthesize Gd and Nd nanoparticles. In order to synthesize rare-earth nanoparticles, we use the inverse micelle technique [1], which provides with a coating that protects the formed nanoparticles from aggregation and oxidation. In our current synthesis procedure of Gd and Nd chloride salts, NaBH4 is used as the reducing agent [2]. NaBH4 has been chosen since it does not react with the surfactant didodecyldimethylammonium bromide (DDAB). Another major issue involved with the synthesis is to obtain a clean sample. The liquid-liquid extraction is applied to purify the samples.

The results from the energy dispersive X-ray spectroscopy (EDX) indicate that the current procedure to reduce GdCl3 salt yields Gd. However, the reaction to reduce NdCl3 salt does not take place. Images from the scanning electron microscope (SEM) and light microscope show the formation of submicron Gd clusters. The liquid-liquid extraction has improved the purification of our samples; nevertheless, excess DDAB and by products have been found in our produced material

Further purification of the samples is needed. An alternate synthesis route needs to be found to synthesize Nd nanoparticles.

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THE GROWTH CHARACTERISTICS OF Dunaliella primolecta and Botryococcus braunii IN FRUIT WASTE WATER AND DEVELOPMENT OF A PROTOCOL TO GENERATE transgenic algae

Microalgae have attracted the attention of many scientists to investigate their potential as a source of biodiesel. Biodiesel are biodegradable, carbon-neutral, non toxic and renewable fuel serving as the best alternative to depleting fossil fuels. Microalgae, the unicellular photosynthetic organisms accumulate oil mainly in the form of triacylglycerol that can be later converted to biodiesel by a trans-esterification reaction. Chlorophycaeae and Bacillariophycaeae are the two known classes of algae that accumulate large amount of oil. However, the increased production costs pose a serious threat to commercialization of the same. In this project we focus on two aspects that might increase oil production: 1) modifying culture conditions to include waste water from the fruit industry; and 2) develop genetic transformation protocols, which could be used to make genetic improvements in oil production.

First we focused on studying the growth characteristics of two species of green algae, Dunaliella primolecta and Botryococcus braunii in fruit industry wastewater. It was found that both species of algae had the capacity to grow in lower concentrations (25 % v. by v.) of fruit industry wastewater when compared to the control cells. The cells entered the log phase in 10-12 days for Botryococcus braunii and 7-9 days for Dunaliella primolecta. The Dunaliella primolecta cells grown in 25 % wastewater also produced oil content slightly higher than the cells grown in normal wastewater. The Botryococcus braunii cells did not show much change in the amount of oil content in different percentages of wastewater.

We also attempted to develop a protocol for transformation of these two species using several methods, including the use of Agrobacterium tumefaciens. To test successful transformation we used the vector pCAMBIA 1301 that harbors the GUS (Beta-glucuronidase) and hygromycin resistance genes. Using Agrobacterium-mediated transformation we obtained Dunaliella primolecta cells that resulted in hygromycin resistance colonies. The developed transformation protocol could belater used to transform the species with specific gene responsible for enhanced lipid production.

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WHEN YOU SEE DEAD PEOPLE: PARANORMAL "SIGHTINGS" AS EYEWITNESS EVENTS

Recent research (Sharps et al., 2006) demonstrated that paranormal and crypto zoological beliefs are facilitated by tendencies toward attention deficit hyperactive disorder (ADHD), dissociation, and depression. These characteristics predicted specific patterns of beliefs in several paranormal phenomena, including ghosts, ESP, astrology, and "cryptids" (unknown animals such as Bigfoot, Yeti, and the Loch Ness Monster). The present research addressed the question of whether these psychological tendencies would tend to create bias in perception as well as belief- in other words, whether a person's identification of a given stimulus item as paranormal in nature would be influenced by the same factors previously demonstrated to influence paranormal beliefs. This was shown to be the case. Ninety-eight college-level respondents were shown a series of digital photographs purported to be of Bigfoot, space aliens, or ghosts, and were asked to rate the prospect that these actually depicted the paranormal entities in question. Tendencies toward ADHD, depression, and dissociation were measured, respectively, by means of the standard Conners Scales, the Beck Depression Inventory-II, and the Dissociative Experiences Scale. Tendencies toward paranormal beliefs were assessed via the Revised Paranormal Belief Scale (RPBS). Regression analyses showed that, although tendencies toward ADHD and depression did not influence stimulus interpretation, those with tendencies toward dissociation identified stimulus items as paranormal in nature significantly more than did those with lower dissociation scores. Dissociation was further shown to be related to paranormal beliefs as measured by the RBPS, consistent with earlier findings. Results are discussed in terms of the recon figurative dynamics known to operate in areas of human cognition such as eyewitness identification, and in terms of the generality of those effects to the realm of paranormal sightings.

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RACIALIZING CLASSROOM SPACES: REMIXING "THE RISING TIDE OF COLOR" AND WHITE FEMININITY

Speaker 3, a White female, discusses the structuring academic histories and racial formation of White female writing teachers, exploring, from classroom experiences and cultural artifacts of English teachers, the ways White female teachers may overly construct racialized spaces of engagement. Drawing on Lothrop Stoddard's The Rising Tide of Color (1920), Robert Lee's (1999) analysis of the book, and Nedra Reynold's (2004) theorizing of space and place, this presentation focuses on classroom spaces as a series of "inner" and "outer dikes," suggesting a practical parallel to Stoddard's "rising tide of color," often euphemized as "basic writing," "remedial," or "at risk" students in the academy. Stoddard's allusion to the White femininity of the geographical Western 'inner dikes,' which needed preserving and protecting against the so-called flood of Eastern races, provides a way for an interrogation of the speaker's own White female subjectivity in the classroom, and how her racial subjectivity influences the structuring of her classroom. Considering the everyday negotiations that create spaces within her classroom, this speaker looks at the racial formations that function as structuring structures (Bourdieu 1991) for her students. In analyzing the actual physical distribution, voicing, and positioning of bodies within the classroom, this presentation seeks to understand how the writing classroom disposes and determines racialized interactions and engagement. The purpose of the presentation is to consider for practical pedagogical applicationsthe mapping of the classroom as a series of Stoddard-like "dikes" that distribute racialized bodies and unnecessarily preserve White femininity, perhaps with harmful pedagogical effects.

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INTERACTIVE EFFECTS OF MECHANIZED CANOPY MANAGEMENT AND REDUCED DEFICIT IRRIGATION ON SHIRAZ GRAPEVINES

Canopy microclimate of Shiraz/1103P were altered and exposed to Reduced Deficit Irrigation (RDI) varying in severity and timing. Four canopy levels were imposed by dormant pruning the vines to 21 spurs (control), mechanically pruning to 10 cm hedges and mechanically thinning shoot and cluster density to 16 shoots/m, 20 clusters/m (CLL); 23 shoots /m, 30 clusters/m (CLM); and 49 shoots/m , 36 clusters/m (CLH), respectively. Control vines were irrigated to 70% ET until harvest (RDIC). Other vines either received 70% of full vine ET up to veraison, after which rate was cut to 50% of ET (RDIL) or had their irrigation cut to 50% of ET before veraison (RDIE), but not thereafter. At veraison, the shoots exposed per hectare were 53% and 39% lower for the CLL, and CLM; but 43% higher for the CLH when compared to Control. The distance between shoots was 137% and 81% higher for the CLL and CLM, but 29% lower for the CLH compared to Control. Compared to control, leaf layer number was 55% and 50% lower for the CLL and CLM, but 20% higher for the CLH. The RDIE and RDIL lowered the leaf layer number by 22% and 10%, respectively compared to RDIC. Berry weight was 2%, 5%, and 11% lowered by the CLL, CLM, and CLH, respectively. RDIE also reduced berry weight by 16% at harvest compared to RDIC and RDIL. Yield was reduced by 33%, 29% by the CLL and RDIE, but increased by 5% and 17% for the CLM and CLH, respectively. The CLL and CLM reduced the leaf area: fruit by 33%, and 54% respectively whereas the RDI treatments did not affect the leaf area: fruit. There was an interaction of canopy management and RDI stress on wine total phenolics, tannins, and anthocyanins where the CLM with RDIL had the highest tannins and total phenolics. The highest wine anthocyanins were seen with the CLM with the RDIE. This study provides important information for growers considering mechanizing canopy management operations while scheduling reduced deficit irrigation where best results were achieved with the CLM and RDIE treatments.

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SCHOOL-BASED SEXUALITY EDUCATION VS. PARENT-CHILD COMMUNICATION: ARE EITHER DELAYING ONSET OF SEXUAL INTERCOURSE OR INCREASING CONDOM USE?

INTRODUCTION: School-based sexuality education remains a major issue concerning youth across the United States as levels of sexually transmitted infections and pregnancies remain high. Additionally, nearly half (47%) of youths aged 12-14 years said their parents influence their decisions about sex more than anyone else. The purpose of this study was to examine whether associations exist between age of onset for sexual intercourse and use of condoms when considering both school-based sexuality education and parent-child communication about sexuality. METHODS: Non-random sample of 3,500 students, representing 54 schools in 23 school districts in a southeastern state were sampled using the CDC's YRBS-M. Four questions, related to sexual intercourse, condom use, and sexuality education were extracted. RESULTS: Thirty-six percent of males and 20% of females reported having had sexual intercourse. Findings revealed the following themes: 1) Talking with parents about sexuality decreased the odds for both males and females of having sexual intercourse during middle school years; 2) School-based education about sexuality decreased the odds for both males and females of having sexual intercourse, but not to a statistically significant level; 3) After having talked with their parents about sexuality, odds of a male using a condom were increased; 4) School-based education about sexuality had no impact on condom use for males or females. CONCLUSIONS: Good parent-child communication on sensitive topics such as sexuality, STD's, and condom use could greatly enhance the value of prevention messages to youth in middle school. Parents however do recognize the need for more and accurate information. Support for school-based sexuality education remains strong and broad based, but often is the target of political and religious differences, often at the detriment of quality and effective programming. Therefore, improved, skills-based sexuality education in schools is needed in order to impact students' behaviors.

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SYNTHESIS AND CHARACTERIZATION OF NEW, Chiral P-N Ligands and THEIR USE IN THE PALLADIUM-CATALYZED ASYMMETRIC Allylic Alkylation

The allylic alkylation reaction, a Pd-catalyzed transformation that tolerates a wide variety of substrates and results in the formation of a C-C, C-O, C-S, or C-N bond, is a very useful synthetic tool utilized by many organic chemists. The asymmetric version of this reaction (known as the AAA reaction) is of particular importance, as its products are useful intermediates in the synthesis of chiral drugs and other biologically important compounds. The alkylation of 1,3-diphenyl-2-propenyl acetate with dimethyl malonate has served as the model reaction for these catalytic studies. As with all symmetric metal-mediated reactions, the stereo-electronic characteristics of the chiral ligand(s) surrounding the transition-metal atom influence the activity and selectivity of the catalyst. In this regard, ferrocene-based chiral compounds with both P and N donor atoms have been shown to be very effective ligands in the AAA reaction. Gratifyingly, the catalyst formed using one of the P-N ligands prepared for this study showed particularly high activity (up to 99 % conversion) and selectivity (up to 90 % ee) when applied to the AAA. These catalytic studies, including the synthesis and characterization of the new, chiral P-N ligands will be discussed.

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CONSTRUCTING A MULTIPLEXER (SCANNER)

A multiplexer (scanner) is an apparatus which allows multiple sources or samples to share a single set of equipment. This is important in a lab conducting low temperature experiments with multiple samples and only one set of testing equipment.

Constructing a multiplexer solves the issue of equipment sharing, while saving money by not having to purchase an industry built multiplexer for ~$2000(homebuilt multiplexer cost less than $500). A 6-channel stand alone multiplexer was constructed in our lab for this purpose. The multiplexer was designed to assist in 4-wire measurements and can be used as an auxiliary instrumentation in testing sample properties such as resistance, magnetic susceptibility, and specific heat. A USB I/O module is used in the multiplexer to allow a computer to control the switching of equipment from one channel to another. This unit integrates the use of optocouplers, which, allows for a reduced noise level in the sample measurements by isolating the computer and I/O module from the apparatus involved in measurement. The multiplexer's noise level and switching times are of acceptable value and it is ready for use in a cryogenic system. Detailed will be the design, performance, and testing results for this unit.

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CALIFORNIA HISPANIC NURSES: ANALYSIS OF 1997, 2004, 2006, 2008 SURVEY DATA

The Hispanic population is growing dramatically in the United States. The growth in the Hispanic population is accompanied by the growth in its specific healthcare needs. Healthcare needs of ethnic communities are thought to be best met through culturally congruent, culturally competent nursing care. The 2000 National Sample Survey of Registered Nurses reports over a 200% increase in the Hispanic or Latino registered nurse U.S. population between 1980 and 2000. Despite the large growth, in 2000 only 2.4% of the total RN population was Hispanic.

This study will identify changes in the number and proportion of practicing Hispanic RNs, their level of education, location of employment, and wages by using the California Board of Registered Nursing (BRN) Surveys of 1997, 2004, 2006, and 2008. The specific objectives of this study are: (1) to identify the rate of growth of the Hispanic RN supply, (2) to identify any changes in the human capital characteristics of this population (level of education and years of experience) as compared to their Caucasian counter-parts, (3) to identify any changes in the location of employment and positions held, and (4) to examine any differences in hourly wages between the Hispanic and Caucasian RNs.

This research project is a secondary data analysis of California cross-sectional survey data. We will describe the California RN workforce, highlighting changes in the Hispanic nurses population between 1997 to 2008. Data analysis will be done using analysis of variance (ANOVA) to compare mean values. If differences are found, post hoc tests will be used to identify where the differences lie. Preliminary results indicate that the growth in the proportion of Hispanic RNs is lower than growth in the proportion of Hispanics in the general population, suggesting that more needs to be done to incentivize Hispanics to enter the profession. This study will inform policy makers and administrator so that better labor supply policies can be designed.

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FINANCIAL FORECASTING USING DATA MINING

This study presents a Business Intelligence (BI) approach to forecast daily changes in seven financial stocks' prices from September 1, 1998 to April 30, 2008 with 267 independent variables. The purpose of our paper is to compare the performance of Ordinary Least Squares model and Neural Network model to see which model better predicts the changes in the stock prices and to identify critical predictors to forecast stock prices to increase forecasting accuracy for the professionals in the market.

We used SPSS to perform stepwise regression to create a unique regression model for each company. Then, we ran the neural network with Alyuda NueroIntelligence to create a NN model by performing data analysis, data preprocessing, network design with hyperbolic tangent method, training with batch back propagation, testing, and query. We did data manipulation by using the first derivative and adding 0.1 to the absolute value of the minimum value in each variable to avoid minus sign from the rounding. Finally, we tested the model with the paired t-test in 152 randomly selected data points.

Our result showed that the neural network model (batch back propagation algorithm) outperformed OLS model. The %error for NN and OLS mean ranges from 2.13%-3.27% and 4%-32% and standard deviation ranges from 1.78%-3.39% and 2.46%-8%.

The OLS model is easy to use, validate, and works fast with lower forecasting accuracy because it is a linear model. NN has a better forecasting accuracy with no explanation of the relationship between interacting variables with dynamic results due to the learning setup. Some critical success factors to train NN are the network architecture, network design algorithm, training algorithm, and stop training conditions. Data normalization can make a huge difference to the result. We recommend more forecasting method and independent variables (e.g. expert opinion) to be included for future studies.

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INVESTIGATING THE ROLE OF METHYL FARNESOATE ON FECUNDITY IN THE TADPOLE SHRIMP, Triops longicaudatus

In crustaceans, evidence is accumulating that the precursor to the Juvenile Hormone III (JH III), Methyl Farnesoate (MF), regulates reproduction and development (Laufer et al., 1987; Laufer and Biggers, 2001; Borst et al., 2001). In tadpole shrimps, Triops longicaudatus, MF is a native hormone and appears to suppress and delay ovary development in 5-day old juveniles (Tsukimura et al., 2006). This study aims to expand on that study by investigating the amount of cyst produced daily, and in total, during one life cycle of the organism, under dietary MF treatment. Furthermore, we hatched the collected cysts in order to determine the viability of the eggs produced by MF-treated individuals in order to see if future generations are affected.

Cyst-containing soil was collected from a rice farm in Richvale, CA in the Fall of 2008. The cysts were hatched in glass bowls. Six day old animals were isolated in individual containers for easier monitoring, feeding, and cyst collection. Individuals were separated into two dietary groups: a control lacking MF and a treatment group subjected to a concentration of 6 ppm MF pellets. Cysts from all individuals are collected and counted daily. In order to enhance the hatch rate, prior to hatching, the cysts were desiccated and frozen. The viability of the cysts was determined by calculating the percentage of MF-treated cysts hatched compared to that of the control cysts.

In individuals that survive beyond 5 days of oviposition the mean daily cyst output were similar, but approaching significance ($p=0.09$). The control and MF-treated animals had 88.7±10.6 SEM cysts/day ($n=23$) and 76.5±7.3 SEM cysts/day ($n=25$), respectively. Similar results were seen with the total number of cysts produced by MF-treated animals compared to controls, 649.6±106.3 SEM cysts ($n=25$) to 809±151.7 SEM cysts ($n=23$) ($p=0.10$). No difference was seen in the number of days of oviposition between the two groups, control animals had a mean of 8.8±1.8 SEM days of oviposition compared 8.1±1.6 SEM in MF treatment.

Three trials of cyst hatching have been performed. The hatch percentage of cysts from the control had great variability among the three trials, 25.6%, 9.6%, and 14.2%, combined for a mean of 14.0%. The MF-treated cysts were slightly more consistent with 21.3%, 28.0%, and 20.2%, combined for a mean of 23.6%.

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The cyst collection data shows promise that dietary MF may decrease the amount of cysts these animals produce. This gives us hope that with a higher sample size or perhaps increasing the dietary MF concentration that the decrease in cyst production will becomes significant. The low hatch percentages of both groups, especially the control, compared to previous studies done on Triop cyst hatching have prompted us to question our methods for hatching these cysts.

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ACCULTURATION, PARENT-CHILD CONFLICT, AND ACADEMIC ADJUSTMENT FOR HMONG ADOLESCENTS

The purpose of this study is to access the extent to which acculturation and parent-child conflict affect Hmong adolescents' academic adjustment into the American school system. Children that are successful in school often have an integrated acculturation style in which they maintain Hmong values while also adopting the main American norms. Although, conflict can arise between Americanized teenagers and traditional parents. The ultimate goal is to inform school staff about the issues regarding acculturation and parent-child conflict among Hmong adolescents. This can build a positive alliance among Hmong students and their educators since it is important for all students to enjoy and succeed in school.

Participants are Hmong students (ages 14-18) from a local public school, grades 9 -12. These students were obtained from Hmong language classes, English-as-a-Second-Language classes, and Hmong student organizations. Hmong high school students received three total surveys. First, was a survey to access acculturation regarding language(s) spoken, cultural practices, and family history. Second, was a survey to access parent-child conflict concerning common arguments. Third, was a survey to measure academic adjustment, including topics such as academic success, satisfaction with friends, and career plans for the future.

Results will likely show that most students perceive themselves as "Hmong-American", rather than only "Hmong" or "American". This would reveal an integrated acculturation style. Considering oneself "Hmong-American" is expected to be positively correlated with a positive parent-child relationship which will provide for better academic adjustment.

The main conclusion is that Hmong children are more likely to be successful academically when they identify themselves as "Hmong-American" and have a positive relationship with their parents. This is providing that most students perceive themselves as "Hmong American" and this, along with positive parent-child relationships, are positively correlated with better academic adjustment.

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EFFECTS OF ACUTE STRESS ON HORMONAL REGULATION OF FOOD INTAKE IN TILAPIA

Food intake results from a set of complex hormonal and neural signals that integrate external stimuli with the internal milieu of the animal. Ghrelin – a stomach hormone – is known to stimulate appetite, whose actions are mediated by neuropeptide Y (NPY) in the hypothalamus. Further, the ghrelin receptor (growth hormone secretagogue receptor: GHS-R) has been shown to be located on NPY-containing neurons in the brain. In several fish species, a decrease in food intake following an acute stress has been observed. However, the hormonal mechanism controlling the reduction in food intake during stress has yet to be determined in any fish. This study was designed to investigate the effect of an acute stress on food intake and brain expression of NPY, ghrelin and GHS-R in the hypothalamus (regulates appetite) and telencephalon-preoptic area (regulates energy balance) in the tilapia (Oreochromis mossambicus). After a 30 min crowding and handling stress, fish were allowed to feed for 1 h, after which food intake was determined. An acute stress significantly reduced food intake compared to control fish. In a second group of animals, tissue samples were collected immediately following the stressor. Hypothalamic mRNA levels of NPY and ghrelin were significantly reduced, while GHS-R mRNA levels were significantly elevated. Conversely, in the telencephalon-preoptic area, NPY, ghrelin and GHS-R mRNA levels were significantly elevated. These results provide evidence that decreased food intake following an acute stress is mediated by suppressed mRNA levels of NPY and ghrelin in the hypothalamus. Further, our findings suggest that ghrelin and NPY are differentially regulated in different regions of the brain during stress suggesting that these hormones exhibit multiple regulatory functions related to overall metabolism. This work was supported by the National Science Foundation (IOS-0639771) awarded to LGR.

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BshA, a glycosyltransferase, CATALYZES THE FIRST STEP IN BACILLITHIOL BIOSYNTHESIS

Intracellular thiols are key molecules in the maintenance of cellular redox homeostasis and in protection of the cell against a variety of toxins and stresses. Glutathione satisfies this role largely among eukaryotes, the cyanobacteria, and other Gram-negative bacteria while low GC Gram-positive bacteria, such as Staphylococcus aureus, Deinococcus radiodurans, and multiple Bacillus species, contain the novel thiol, bacillithiol (BSH). Like GSH, BSH presumably serves as an antioxidant, either directly reducing the reactive oxygen species or indirectly serving as an electron donor to enzymes that are involved in detoxification. Recently, Newton et al (2009) elucidated the structure of BSH and demonstrated that it is the ά;-anomeric glycoside of L-cysteine-D-glucosamine with L-malic acid, establishing its similarity to mycothiol (MSH), the dominant low molecular weight thiol within high GC Gram-positive organisms. By analogy to the MSH biosynthesis pathway, we reasoned that the first step in the BSH biosynthesis pathway is catalyzed by a glycosyltransferase, BshA, responsible for generating N-acetylglucosamine-malate from the substrates UDP-N-acetylglucosamine and L-malate. In the present study, we characterize this enzyme from Bacillus subtilis following cloning into an E. coli recombinant expression vector and purification using nickel affinity chromatography. Effect of substrate concentration on enzyme activity was determined and the apparent Vmax and Km were calculated. Substrate specificity of BshA was investigated with D-malate, glycolate, lactate, isocitrate, glycerate, and 1-L-inositol-1-phosphate, the substrate for MshA, the glycosyl transferase that catalyzes the first step in MSH biosynthesis. Rates of product formation were significantly reduced for the substrates tested, with the exception of L-malate, indicating a high degree of specificity of BshA for its natural substrate. The results presented herein represent the first steps towards elucidating the biosynthesis of BSH and its intracellular function. Since BSH is present in pathogens such as S. aureus and B. anthracis and absent in the human host, enzymes involved in its metabolism, like BshA, are potential drug targets.

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INSTRUMENTATION FOR MEASURING SPECIFIC HEAT OF STRONGLY CORRELATED ELECTRON MATERIALS

The purpose of our work is to develop instrumentation that will investigate the thermal dynamical properties of strongly correlated electron materials. Rare earth compounds are of interest in our lab because they are known to exhibit strongly correlated behavior. A calorimeter is constructed to measure the specific heat of a sample material. The specific heat is a measure of how much heat is needed to raise the temperature of a unit mass of a substance by one Kelvin. The specific heat probes the internal energy of a material, which can give information such as entropy, effective electronic mass, stiffness of crystal structure (Debye temperature). The specific heat versus temperature graph can indicate where phase transitions such as superconductivity, metal to insulator, and magnetism occur. The temperature dependence of specific heat contributions from the crystal lattice and electrons can also be determined.

The calorimeter consists of a thermometer and resistive heating elements, which are thermally coupled to a sapphire disk as a sample stage. A temperature relaxation method is used due to the dynamic process of energy input and heat leaking out of the calorimeter. Using a well-written fitting program we can extract the specific heat, thermal equilibrium time and thermal conductance information of our calorimeter from the time-dependent temperature data.

We are currently calibrating our calorimeter by measuring the specific heat of copper since it is well known. The specific heat measurements we have taken from 20 Kelvin to 150 Kelvin indicate that our calorimeter is producing consistent results. Once the specific heat measurements are analyzed and shown to be consistent with values found in literature, for temperatures in the range of 150 Kelvin to 300 Kelvin or room temperature, we can proceed with using the calorimeter to study rare earth compounds.

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DIFFERENT-SUBJECT (DS) CONVERBS IN YAKUT

Converbs (sometimes also termed adverbial participle or gerund) can be defined as a non-finite verb form used for the expression of adverbial functions (Nedjalkov, 1987; Haspelmath, 1995). Nedjalkov (1998) classifies converbs according to the three criteria: referential, semantic and syntactic. Within the referential criterion Nedjalkov distinguishes three types of converbs: same-subject (SS), different-subject (DS), and varying-subject (VS). Pakendorf (2007) proposes that in Turkic languages the converbs' subjects are mostly coreferential with the subject of the main verb, thus featuring SS converbs. The language that I am going to study in this paper is Yakut, a Turkic language spoken in north-eastern Siberia of the Russian Federation. Both Nedjalkov (1998) and Pakendorf (2007) conclude that Yakut does not have DS converbs. However, Pakendorf mentions that in Yakut converbs can occasionally occur in DS constructions as well, and to support the statement, the researcher suggests this example: (1) ebee ayannïï hïjjan emčitterge emčitter bileller diebitiŋ duo grandmother journey CONV medicine medicine know say Q ebee grandmother 'Grandmother, when you journeyed to the healers, the healers knew, you said, right?' This data evidences the occurrence of DS converbs in Yakut which contradicts to Nedjalkov's statement, "The most significant fact about the Yakut converbal system is the absence of DS converbs." (Nedjalkov, 1998, p. 347). This paper proposes what I believe DS converbs are present in Yakut: (2) sarsun ayannïï sïljan tahaᵛ ahïn süökeen kini tomorrow journey-CONV be-CONV cargo unload-CONV he büterin ketehieŋ duo finish-CONV wait Q 'Will you wait for him to finish unloading the cargo when you are journeying tomorrow?' (3) kini jietiger keleetin üöhetten ïstanan oyoᵛ o ölbüte he home come-CONV height jump-CONV wife die 'As he came home the wife died jumping down from the height.' I propose that DS converbs in Yakut imply activities that are taken place simultaneously or coherently. To prove this statement more data is needed from Yakut. The paper will expand Pakendorf's statement with relevant data and account for the instances of DS converbs in Yakut, the presence of which has been generally questioned or denied by the researchers. REFERENCES Nedjalkov, I. (1998). Converbs in the languages of Eastern Siberia. Language Sciences, 20 (3), 339-351. Pakendorf, B. (2007). Contact in the prehistory of the Sakha (Yakuts): Linguistic and genetic perspectives. Analysis of divergent traits of Sakha (pp. 77-289). Utrecht: LOT.

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IMPLEMENTING THE POINT-NEURON MODEL IN SIMBRAIN

Recent research on the dynamics of neurons has led to the development of mathematical models that are based on the functioning of the brain, which are used to gain insight into human cognition. At the University of California, Merced, Dr. Jeffrey Yoshimi (2008) developed Simbrain, an artificial neural network simulator which does not require advanced mathematical experience to operate. The goal of this research was the implementation of the point-neuron model (PNM) (Munakata & O'Reilly, 2000) in Simbrain. The model calculates a neuron's membrane potential (voltage between the cell and surrounding fluid) before calculating the neurons activation value. This separation is distinct from other models and as a result more biologically plausible. If the input raises the potential to its threshold, the neuron fires sending input to the next neuron in the network.

Equations were coded in Simbrain and the simulator was configured to perform them in the correct sequence, an algorithm, in the source code. The user interface was then expanded to include the PNM. The graphical interface allows users to create networks of point neurons and easily set their parameters. Next, identical simulations were run in Simbrain and Emergent (another leading simulator) recording the outputs of the underlying computation. Successful implementation of the PNM should yield results comparable to that of Emergent.

Tables generated by Simbrain and Emergent were compared to validate the implementation of the PNM. Results indicate the underlying computations were consistent for all simulations. We have concluded the PNM can be integrated into an easily accessible, visually oriented software package for modeling cognition. In the next phase of the project, simulations of increasing complexity will be run for further validation. Additional mathematical models which compliment the point neuron will also be implemented.

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TEST ROOM DESIGN FOR THE OBSERVATION OF PARTICULATE MATTERS ARISING OUT OF AGRICULTURAL MANAGEMENT STRATEGIES

Discussion on air pollution in California has been since long. Especially in the Central Valley area, the pollution is due to contributions of agricultural management strategies (AMS) that include pesticides odors, soot, smoke, pollen and dust.

These are several examples of wide range of different particles that contaminate the air and cause serious health problems. This type of air pollution is referred to as particulate pollution as it is caused by complex mixture of extremely small particles. Researchers have found that (according to the EPA - Environmental Protection Agency) the particulate matters pass through the throat and nose and enter the lungs thereby causes a wide variety of health issues ranging from allergies to lung and heart problems. Above and all, it also affects crops and vegetation by covering them and stunting their growth due to the shading effect and clogging of the plants' pores. Public concern has driven researchers to search for better approach that can help control and improve existing AMS. In order to better understand the behavior of such particles under various environmental conditions and agricultural scenarios an isolated and controllable test room is eventually needed. The objective of this research study is to design, analysis, and develop a test-room prototype that can facilitate research as regards to determination of pollution index and other demanding parameters. We will present the design and documentation of a unique dust particle matter automated test room which will be able to control and measure different variances including room temperature and humidity. The room consists of various components such a specially designed conveyor belt, dirt grinder, a heating/cooling unit, hydraulic lifters as well as temperature, proximity, and other sensors. The outcome will eventually help with the study of particulate matter behavior and lead to establish a platform for new AMS.

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THE METAL ION CONTENT OF DROSOPHILA MELANOGASTER EXPRESSING COPPER-ZINC SUPEROXIDE DISMUTASE (CuZnSOD)

Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease associated with the death of the upper and lower motor cortex. The genetically associated form of the motor neuron degenerative disease, fALS (familial amyotrophic lateral sclerosis) is associated with 135 point mutations in the antioxidant protein, copper-zinc superoxide dismutase (CuZnSOD). Studies show the point mutations are located throughout the enzyme and four mutations occurring near the copper and zinc active site while the rest are distributed throughout the entire enzyme. Trace element are important cofactors to various enzymes including SOD.

To gain insight into metal homeostasis and oxidative stress in protein SOD, a method to measure the metal ion content (copper, zinc, iron and manganese) in model Drosophila melanogaster (fruit flies) will be explore with inductive coupled plasma mass spectrometery (ICPMS). In a parallel experiment, whole flies were extracted and the lysates were analyzed for SOD protein content and enzyme activity using the nitro blue tetrazolium (NBT) native gel assay and Western Blot analysis.

CuZnSOD-expressing fruit flies (wild type-Canton S) of ages 0, 32 and 68 days old were measured using ICPMS displayed an increasing trend up to age 32 days then decreased in metal content (Cu, Fe, Mn and Zn) at age 68 days old. Western Blot analysis displayed SOD activities at 16 kDa. Metal ion content measured using ICPMS display metal ion content do not correlate with age, however ALS is an aged dependent motor neuron degenerative disease. The SOD activity observed using gel electrophoresis remain inconclusive whether SOD activity could be correlated with metal ion content.

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COMPARISON OF THREE SOIL RECLAMATION TECHNIQUES FOR GROWING PROCESSING TOMATOES IN WESTSIDE SJV

In the San Joaquin Valley (SJV), many growers are turning to higher value crops and alternative irrigation systems to increase their revenues. This is more common in the case of cotton growers in Westside SJV who are transitioning to vegetable crops, mainly to processing tomatoes using sub-surface drip irrigation. However, vegetable production in saline environments presents new challenges due to the salt sensitivity of these crops. In saline-sodic soils, high sodium (Na) content and low calcium (Ca) availability is a major problem for tomato production. Therefore, the objective of this study was to compare different soil reclamation techniques, i.e., Ca fertigation and irrigation water acidification, in an effort to increase Ca availability and decrease soil pH, thereby improving Ca uptake by plants. Four treatments were tested in the study with the applications of calcium-based fertilizers and acid through the sub-surface drip system. All four treatments were completely randomized and replicated four times. Marketable tomato yields were calculated and incidence of blossom-end rot was observed. Ca and Na concentrations of saturated paste extracts of soils were analyzed using AtomicAbsorption Spectrophotometer (AAS).

Results of the first year study conducted in 2009 indicated that the marketable tomato yield of the Ca Thiosulfate treatment (73 tons/ac) was significantly higher ($P < 0.05$) than that observed for the other treatments. However, no significant differences were observed in the occurrence of blossom-end rot, Ca and Na concentrations between treatments.

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SOCIAL TIME AND SPACE RELATED TO THE NOTION OF FESTIVITY THROUGH THE HMONG AMERICAN NEW YEARS

The purpose of the study is to examine the reproduction of the New Year and the notions of time and space associated with the idea of festivity in the Hmong American community in California.

The methodological approach has been based on qualitative data: fieldwork notes, observations, photographs, and interviews with participants and organizers of the New Years from 2000 to 2009, in California.

The findings show a persistent cycle of festivity that takes place each year from the end of October to January of the following year. The festive calendar remains lunar, with however a socio-economic determination that impacts the choices of celebration dates. The Hmong American community progressively celebrates New Year from North California (Oroville/Sacramento) to South California (San Diego/Long Beach), and finally to Central California (Fresno/Merced).

These cities serve as social nodes to link the Diaspora. During the New Year time, the community strengthens its ethnic identity by recalling and performing rituals, and by reliving traditional lifestyle such as eating traditional food, and exhibiting traditional clothes. The events of the New Year projects new hopes and commitments, and defines new symbols of ethnic identification associated with shared values and norms carried by the newly elected Miss Hmong, and the leaders, especially the main leader, General Vang Pao. The culture is revitalized within this intense festive period of the year. There is perpetuation of the rituals, cultural practices, beliefs, and language uses, which creates genuine feelings of ethnic bounds that tie and tighten each fragment of the Diaspora, and lead to a state of social cohesion and of reunion of the different diasporic communities as one and unique ethnic group.

The notion of social time of the New Year is in fact related to the idea of out-of-time where members of the community stop their everyday activities, and take a journey to reconnect with clans, lineages or households, but also with their "Hmongness". The social space for socio-cultural reproduction is inherent to the time of festivity: it's a time-space where the Hmong, stateless people, mark a visible boundary between "us" and "the others".

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IMPLEMENTATION OF THE PALS CURRICULUM IN A RESOURCE ROOM BY ASSIGNING CROSS-GRADE PEERS

The passage of the No Child Left Behind Act requires teachers to implement and use research supported practices in their classrooms. These practices must be applicable to core-curriculum instruction and must facilitate access to standards-based curriculum for students with disabilities. However, an extensive amount of research has been published pointing to ineffective instruction being provided in part time special education classrooms known as Resource Rooms. Furthermore, one study reported an inverse relationship between time spent in the resource room and student achievement. One method of instruction that has proven effective in such learning environments is peer tutoring. Peer Assisted Learning Strategies (PALS) was created to support the general, standards-based curriculum by manipulating a series of research based instructional methods to deliver reading instruction through peer mediation. The PALS curriculum centers around the use of high- achieving peers to prompt, correct, and reinforce lower-achieving peers in a series of reading tasks. Â PALS has shown to be effective in improving reading fluency and comprehension for both general and special education students. At this time, research on PALS implementation in a classroom serving multiple grade levels using cross-grade peers has not been conducted. With the extensive research pointing to the lack of proven instructional methods used in the resource room, combined with the research supporting PALS, and cross-aged peer tutoring, it was the purpose of this study to investigate the combination of these instructional methods within the resource room. This study, implemented the PALS curriculum into a resource room, serving second through sixth grade, utilizing a multiple baseline by dyad design. The results of this examination will be presented. The effectiveness of implementing the PALS curriculum in a resource room, serving multiple grade levels by assigning cross-grade peers according to ability will be discussed.

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EFFICACY OF A SLOW RELEASE NITROGEN FERTILIZER FORMULATION

Among the essential plant nutrients, nitrogen (N) is unique because of its potential to increase crops yields and to be lost to the environment. Advances in N fertilizer technology have produced slow release nitrogen fertilizers (SRNFs) aimed at supplying N at different growth stages, thereby maximizing the N uptake and minimizing losses due to leaching, volatilization and denitrification. In this first phase of a study to investigate the nitrogen use efficiency (NUE) of SRNF applied to vegetables, we evaluated the effect of a SRNF formulation, applied at relatively high rates, on tomato yield and the potential for nitrate leaching. During the summer of 2009, an experiment comprising of a split-plot design with four replicates, were conducted on sandy loam soils at the Center of Irrigation Technology (CIT), Fresno. The SRNF formulation was compared to the conventional UAN fertilizer (main factor), applied at rates of 150, 225, and 300 lbs N/ac (subplot treatment). In addition to tomato yield and quality data, pre-plant and post harvest soil samples were collected to estimate the amount of nitrate available for leaching. There was no significant difference among the total number and total weight of tomatoes between the two fertilizers. However, fertilizer rates significantly affected the number (P=0.022) and weight (P=0.032) of green tomatoes. As the mature green tomatoes ripened the Brix index increased from 4.6 to 5.3 at 20 days after harvest (DAH). Neither fertilizer types nor rates had any significant effect on the change in sugar levels of the tomato during the shelf life study. Post-harvest soil NO3-N levels at each of the four depths examined were lower than the

preplant NO3-N levels, thereby indicating a low potential for N leaching below the root zone. Overall, there was no significant difference in the nitrate concentrations at the various soil depths for the two fertilizers examined in this study.

The one time application of the SRNF represents a potential saving in energy, fuel and labor requirement in comparison to the multiple UAN fertilizer applications traditionally used in growing tomatoes.

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BRINGING BLOGS INTO THE CLASSROOM

Recent studies have shown that Web 2.0 technologies such as blogs, wikis, podcasts, and other powerful tools for education can help strengthen students' critical thinking, writing, learning, research, and reflective abilities, and engage students in a new world of information sharing and social learning. The study aims to evaluate the effectiveness of blog-mediated learning, knowledge discovery and creation within the scope of information science education. The study also aims to investigate the design and usability issues of classroom blogs.

The research methods used in this study include:
1) Literature review on blogs, the use of blogs in education, and constructive social learning theories.
2) A case study where a class blog is implemented and students' learning result was evaluated using survey questionnaire.

The findings demonstrate that blogging and sharing topics that are relevant to the course material motivates students' learning – they learned emerging information technologies outside the scope of lecture and textbook through looking for relevant topics for their blog posts, presenting and discuss their posts in class, and reading their classmates' posts; they developed strong and independent research skills. The findings also reveal that the design and usability of the blogs matters the students found it easier to share and manage posts in an aggregated class blog compared to discrete individual blogs.

The study concludes with a discussion of the opportunities as well as challenges of bringing social media tools like blogs into classrooms, such as the assessment of learning, the monitoring of student participation, the need for user support, and the options of the blog design.

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BOYS AND GIRLS: GENDER DIFFERENCES IN OUTCOMES OF PARENTAL ABUSE

The study of the long-lasting psychological effects associated with physical and sexual abuse has been an area of inquiry for researchers for many years (Brown, et al., 1999). The degree to which children are impacted with depression as a result of physical and sexual abuse differs depending upon the gender of the child. The objective of this study was to broaden the scope of abuse and compare differences between males and females as it relates to the impact of verbal, physical, and sexual abuse. The results are surprising yet consistent with previous research.

A sample of 383 volunteers completed a series of measures used to analyze gender differences in regards to depression as a result of parental physical and verbal abuse and sexual assault from within or outside the home. Additionally, quality of the relationship with each parent, such as warmth and closeness, was assessed. To gain a better understanding of differences related to sex, separate analyses were run for females and males.

Results show that verbal abuse from the same sex parent was the most significant predictor of depression. Analyses for males and females both showed one additional significant variable. For males a positive relationship with mother was related to lower levels of depression showing a protective aspect of this relationship. The same was not true for the females. For females the only other significant variable was moderate physical abuse from father. Overall, males were verbally and physically abused more than females however, consistent with previous literature, females were more often the victims of sexual abuse and assault. Surprisingly, sexual abuse/assault alone was not a significant predictor of depression for either males or females, though this is consistent with other studies incorporating verbal abuse (Boyd, 2006).