

DANCE PERFORMANCES

Performances will be held in the [auditorium](#).

Moderator: Paul Ocampo

2:00

Tell Me if This is Funny: An Investigation of Humor Through Language and Dance
Gwendolyn Jensen, Kellie Duncan, and Rieka Toya

This dance utilizes language and movement in order to investigate the idea that humor is at someone else's expense. I choreographed the piece and integrated the skills from my English minor by writing text for my dancers to speak and for a slide show projected behind them. The dancers are telling embarrassing stories from their past, and while they are funny, the slide show is analyzing how they are victims of the joke. This then provokes thought of defining what is funny and why things are funny. I conducted personal research that started in the Spring of '07 for the Principles of Choreography class. Then as the piece progressed I studied the narrative aspects of jokes and applied them to the text. The piece was then performed in the Student Dance Concert: Breaking Bounds, December 2007 and was selected for the informal concert at the American College Dance Festival.

2:15

Regret Me Not

Barbara Ball, Kellie Duncan, Lauren Holden, Kara Johnson, Saki Kawakita, Jessie Metcalf, Jacquell Resse, and Rieka Toya

Regret Me Not: A Creative Expression of Human Experience Through Movement. The project Regret Me Not is the choreographic work of Barbara Ball that was presented in two different venues. It was first performed at the Student Dance Concert in the SUU Auditorium, December 4-8, 2007. Secondly, it was presented at the American College Dance Festival Conference at the University of Utah, March 17-20, 2008. The piece translates past disappointments in choreographer's life that need to be processed and released. Art is the highest expression of human emotion, and dance is art in motion. It is beneficial to perform this piece so others can observe and interpret the movement for their personal understanding.

ORAL PRESENTATIONS

Agriculture & Biology (Escalante)

Moderator: Tessa Salisbury

1:15

Genotypic Variation at the Prion Protein Gene among Suffolk, Rambouillet, and Targhee Sheep

Mariah Thompson and Chad Gasser

Scrapie, a disease in sheep, is a member of the family of transmissible spongiform encephalopathies. Infected animals accumulate abnormal prion proteins in nervous tissues. Polymorphisms of the prion protein gene influence susceptibility to scrapie. The Suffolk breed has been found to have the highest incidence of scrapie in the United States. Genotypes were compared between Suffolk, Rambouillet, and Targhee ewes from the SUU flock. Gene and genotypic frequencies for codon 171 of the prion protein gene varied among the three breeds ($P < 0.01$). Frequency of R was 50.0%, 21.4%, and 3.3% in the Suffolk, Rambouillet, and Targhee ewes respectively. No differences were detected at codon 136. Genetic resistance to scrapie was greatest in the Suffolk ewes. Increased incidence of scrapie in Suffolk sheep may be due to exposure rather than genetic susceptibility.

1:30

The Use of Microbial Community Studies of Healthy, Unhealthy and Dead Starlet Coral to Determine a Possible Pathogenic Microorganism Involved in the Dark Spot Disease
Jeremiah Whetman and Charlotte Pedersen

The world's coral reefs are on a steady decline, and one of the factors that might be contributing to this seems to be the rise in ocean temperature. When the temperature rises the normal bacterial flora of the reef is offset and more cases of coral disease occur. This study focuses on the dark spot disease found on starlet coral throughout the Caribbean. Samples were taken from unhealthy, healthy and dead coral. The coral samples were screened for differences in the bacterial community using the ECO plates. Bacteria were isolated using LB and identified by 16s DNA sequencing. Identification of the bacteria will be discussed and as well as possible pathogenicity.

1:45

Skeletal Muscle Fiber Typing of Desert Woodrats

Jaron Traveller, Wiley Thuet, Rhett Smith, Nate Call, Paul Pillitteri, and Rachel Smetanka

Southern Utah is home to several species of woodrats, rodents native to much of the western United States. Due to southern Utah's uniquely diverse geography, woodrat species can be found at varying elevations and different terrains while still within limited geographical region. Study of Utah's woodrat species has demonstrated differences in behavioral patterns based on habitat distribution, but little is known about their physiological adaptations to habitat differences. Numerous studies on other mammals

have shown changes in skeletal muscle fiber distribution due to habitat differences. Fiber distribution has not been examined in any woodrat species. The purpose of this project was to determine skeletal muscle fiber type distribution in woodrat species. Immunohistochemistry was performed on Desert woodrat gastrocnemius muscles to determine skeletal fiber type distribution. By sampling other species of Utah woodrats, we can determine the extent of alterations in structure and function of skeletal muscle based on elevation and terrain.

2:00

The effect of a grip strength trainer on grip strength and grip time-to-fatigue

Ron Larsen, Derek McAllister, Zack Larsen, Kyler McEwen, Paul Pillitteri, and Rachel Smetanka

There are a number of hand/forearm strengtheners designed to increase athletic performance in various sports including golf and rock climbing. These devices do not undergo physiological testing to demonstrate increased performance and most evidence of their efficacy is based on select customer testimonials. The purpose of this project was to evaluate the effectiveness of the Dyna-Flex Powerball Gyro, a popular hand/forearm strengthener. Ten male subjects were pre-tested for maximal grip strength and grip time-to-fatigue and then given a Dyna-Flex Powerball Gyro and an exercise protocol to follow for 4 weeks. Subjects were re-tested weekly throughout the project. Data was analyzed for increases in maximal grip strength and grip time-to-fatigue. Maximal grip strength increased by an average of 11%. No significant change was seen in time-to-fatigue measures.

2:15

Using Plants to Remove Arsenic from Contaminated Water

Dallin Clark, Chelsey McKenna, Mckell Clark, Diana Heath, Stacie Meier, and Charlotte Pedersen

In Iron and Washington County there are several sources of water contaminated by arsenic level above the EPA standards. Since water is a scarce resource in this desert region it is important to find ways to clean the water. Plants are able to remove metals as well as organics from the environment by metabolism or storage in the vacuole. This project is interested in finding plants that are specific for removal of arsenic and would thrive in hydroponics in extreme desert conditions. Several plants, native as well as crops, have been tested and their ability to accumulate arsenic under extreme conditions will be discussed.

Art & Design (Escalante)

Moderator: Lynn White

11:00

Soft Pastels: Exploration of Plein Air Painting vs. Studio Painting

Mitchell Grimshaw and Carol Stewart

Using soft pastels we explored the advantages and disadvantages associated with painting landscapes in plein air and in the studio. Plein air painting is painting outdoors on location. The advantage of Plein air painting is that it presents the landscape in its full color and beauty. Moreover, the artist must work quickly to capture the ever-changing light and shadow conditions. Studio Painting, or painting from a photographic reference, limits the accuracy of the subject's color and value. However, objects in a photograph are frozen in time, leaving the artist more time to paint. Knowing the advantages and limitations of each method of painting allows the artist to make the best art possible under the given circumstances.

11:15

The Kolob Canyon Review

Stephanie J. Haven "Anie", Cesar Adan Bojorquez, Neil Womack, Katherine Goodell, Brittni Traynor, and Trent Gurney

The Kolob Canyon Review is a peer reviewed literary journal featuring the work of students, faculty, and alumni from Southern Utah University. Its purpose is to emphasize student learning in the production and dissemination of the journal, to provide a forum for writers and artists associated with SUU to publish their work and to have their work read by their peers, and to serve as undergraduate research, in that, it assists students in editing and designing a magazine as well as providing a collaborative effort between supervisors, mentors, and students.

Physical Science (Brian Head)

Moderator: TBA

9:15

Design and Construction of an Apparatus for High-temperature Protein Crystallization Experiments

Spencer Brown, John Eardley and Bruce Howard

In the interest of expanding our ability to conduct protein crystallization experiments to a range of temperatures above ambient levels, we have designed and constructed an apparatus suitable for containing the increased pressures associated with the higher temperatures in a sealed crystallization chamber. Because it is based on a 24-well plate format, our apparatus will be useful for conducting sparse-matrix crystallization screens, and for the optimization of conditions for the growth of monolithic protein crystals.

9:30

Laminites and Dropstones in the Cambridge Argillite (Ediacaran) , Hewitt's Cove, Hingham, Massachusetts

Jessica Williams, Frederick Lohrengel, Jack Beuthin, and Mark McMenamin

Laminated Cambridge Argillite of the Boston Bay Group (Ediacaran) low-grade metasediments can be found in outcrop at Hewitt's Cove, Hingham, Massachusetts. These laminated sediments are finely graded layers 0.2 to 8 cm thick that are commonly interpreted in the literature as fine-grained turbidites (Stow sequences). Rhythmically laminated facies also occur that do not support a sediment-gravity flow interpretation. These rhythmites raise the possibility of sedimentation influenced by agents such as tides, waves, or wind. The Cambridge Argillite appears to consist of a subtle, but definite, mosaic of laminite facies that record multiple depositional processes, and perhaps multiple water depths.

9:45

Paleoproterozoic High-Pressure Metamorphism and Decompression Melting in the Mojave-Yavapai Suture Zone: Evidence from the Beaver Dam Mountains, Utah
Nina Fitzgerald, and Mark Colberg

Precambrian basement rocks in the SW US record Archean (?) and Paleoproterozoic assembly of Laurentian continental crust. Suturing of Yavapai Province rocks with the Mojave Province is recorded in a broad swath straddling the UT-NV-AZ border region. Basement rocks exposed in the Beaver Dam Mountains of SW Utah consist of variably deformed granitoids, amphibolites, and metasedimentary units. Evidence exists for high-pressure eclogite facies metamorphism followed by decompression to amphibolite facies conditions. Stable mineral assemblages in amphibolite and migmatites indicate equilibrium pressure-temperature conditions in the range of 700-800 degrees C and 0.7-0.8 GPa (25-28 km paleodepths). The relict eclogite suggests decompression from a minimum of 1.5 GPa or 50-55 km paleodepths. Exhumation of such deep-seated rocks is consistent with collision between the Mojave and Yavapai Provinces.

10:00

Synthesis of Allenes for [2+2] Cycloaddition Reactions
Tom Kirkland, Benjamin Excell, and J. Ty Redd

We have used asymmetric dihydroxylation (AD) of allenes as a new approach to chiral α -hydroxy ketones. This methodology was applied to several aryl-substituted allenes. We found that electron-donating groups on the aromatic ring increase the efficiency of the reaction. We now report the synthesis of allenes to be used in possible 2+2 allene cycloaddition reactions.

10:15

Synthesis of Pyridine Subcyclic Units, a Process Improvement
Benjamin Excell, and J. Ty Redd

New macrocyclic ligands containing a pyridine subcyclic unit are being prepared by treating the appropriate subcyclic unit with a chiral oligoethylene glycol. The starting subcyclic units are prepared by multi-step synthetic process. This process is arduous and expensive. New approaches to the synthesis of this subcyclic unit have been done and the yields were significantly improved.

10:30

Synthesis of 1-Ethyl-1'-octadecyl-2,2'-cyanine iodide by a Ψ -cyanine Condensation
Tyler Carrier and J. Ty Redd

The ease of formation of aggregates in conjunction with their potential applications in optical devices, photosensitizers, and fluorescent probes for bio-membrane fluidity make cyanine dyes particularly interesting. 1-Ethyl-1'-octadecyl-2,2'-cyanine iodide dye is a very desirable cyanine dye. It has been synthesized by a Ψ -cyanine like condensation of 2-Iodoquinoline ethiodide with quinaldine octadecyliodide. The octadecyl group gives rise to difficulties with a typical Hamer Ψ -cyanine condensation.

10:45

Stratigraphy and Depositional Environment of the Enterprise Reservoir Middle Miocene Track-Bearing Sediments

Jared Brinton and Robert Eves

The mammal track site of Enterprise Reservoir (Hunt and Lohregel, 2006) occurs within Miocene-age basin-filling sediments. The track site is positioned between the Ox Valley Tuff (13.5 Ma) and the tuff of Honeycomb Rock (11.9 Ma). Trace fossils and sedimentary structures suggest a hilly, wooded scrubland and open grassland environment proximal to a low energy body of water. Coarsening upward sediments, as well as distinct sedimentary structures, within the unit suggest a transition to higher energy deposition where fluvial deposits laterally interfinger with axial stream and lacustrine deposits.

11:00

Use of High Performance Liquid Chromatography to Determine Caffeine Concentrations of Various Beverages

Keith Shumway, Tarah Vernon, and Benjamin Dowse

The amount of caffeine in various beverages was tested by using High Performance Liquid Chromatography (HPLC). The caffeine levels of different sodas and energy drinks were determined in order to provide comparison with one another and also with coffee which was also obtained for analysis. Both caffeinated and decaffeinated coffee were analyzed in order to determine whether trace amounts of caffeine existed in the decaffeinated coffee and how that amount relates to the amount found in regular caffeinated coffee. This was accomplished on successive days, obtaining caffeine from the same places and comparisons were made, using a calibration curve for quantification.

11:15

Astronomy Photographs

Loren Goebel and Brent Sorensen

The astronomy photographs are a collection of photographs that were taken over the past 35 years. These include comets, planets, solar prominences, galaxies, nebulae, stars, and the Moon. The descriptions will include object information and photograph information.

Moderators: Lynn White & Jodi Dahlin

1:00

Determination of Chlorophyll Concentration in Water Samples Collected from Rivers in Southern Utah

Kurt Whittemore, Tyler Carrier, and Heather Goldthorpe

The concentration of chlorophyll a in water provides some information about water quality. Water with a high concentration of chlorophyll indicates that there may be much fertilization or algae growth, also known as eutrophication. Such excessive plant growth or decay can be harmful to an ecosystem as the plant growth consumes oxygen, killing fish and other animals. Our research group measured the chlorophyll concentration in water samples collected from several different rivers in Southern Utah in order to assess the water quality. Chlorophyll was measured by centrifuging water samples, extracting chlorophyll with acetone, and using a spectrophotometer or fluorometer to determine the concentration.

1:15

Gas Chromatography to Determine Respiratory Rates

Michael Nielson, Andrew Carpenter, Bryan Gardner, and Jason Lee

During respiration, oxygen poor blood travels to the lungs where it releases carbon dioxide to be exhaled and binds oxygen to be transported to tissues in the body. The rate of transfer between these two gases depends on the equilibrium of the inhaled gases that reach the alveoli and the gases contained in blood within the capillaries. Using gas chromatography, a method has been developed to quantify the relative amounts of oxygen and carbon dioxide in a subject's breath. This method will be used to determine the rates of oxygen depletion and carbon dioxide accumulation in a subject's lungs during regular breathing and after having the subject hold their breath for a variety of time intervals.

1:30

Cations: A Comparison of Southern Utah's Lakes and Rivers

Michael Franklin, Kelsey Allen, and Joseph Wright

Salts, such as Sodium Chloride (table salt) and Magnesium Sulfate (Epsom salts), are compounds that dissociate in water. These minerals and other naturally occurring compounds break apart in water to form ions, positively or negatively charged molecules or atoms. Some of the quality of drinking water depends on the concentration of these ions. Atomic Absorption spectroscopy (AA) is an analytical technique often used to determine the concentration of cations (positively charged ions) in water. Our analysis compares the concentration of several cations in Southern Utah's lakes and rivers.

Math & Engineering (Brian Head)

Moderator: Jodi Dahlin

1:45

The Numerical Simulation for a Non-Local Cahn-Hilliard Equation

Logan Butt and Jianlong Han

In this talk, we propose a linear finite difference scheme to solve numerically a nonlocal Cahn-Hilliard equation which may model a variety of physical and biological phenomena involving media with properties varying in space.

2:00

TankBot Pool using a Microchip PIC

Tereasa Day and Colin Clark

A Microchip programmable integrated circuit(PIC) was used to program a robotic tank to perform as an example for a robotic competition. The purpose of the competition was to create a robotic tank that would be able to detect objects placed on a table and push them off without the tank falling off the table. What makes this objective unique is that the user can not interact with the tank after the start button has been pressed to initiate the program. This requires the tank to be fully automated and not be controlled by a remote control. By using infrared LEDs and receivers we were able to accomplish the task by taking different approaches and using different programs to attain the same objective.

Nursing & Psychology (Brian Head)

Moderator: Jodi Dahlin

2:15

Perceived Health Needs and Risk Factors of Freshmen Students at SUU

Chelsey Jacobson and Lynne Ornes

College students often have unidentified, untreated health needs and risk factors that impact their ability to learn. Nursing students from Community Health Nursing course worked to contribute to the Healthy Campus 2010 goal of increase quality and years of healthy life as it related to the Leading Health Indicators (e.g. physical activity, nutrition). Data provided insight into health needs and risk factors of freshmen students in Southern Utah University (SUU). The present study used a descriptive design and survey methodology to determine health needs and risk factors of freshman students at SUU (n=349) and the most effective methods of providing them with health education and information. Mean age of the participants was 18.6 years, most were majors in the College of Science, single (92 %), and insured (88.5 %). Interviews of key informants were also conducted to determine their perceptions of health needs and preferred method of disseminating health information that their office used. Results identified risk factors related to tanning, use of sunscreen, and immunizations. Chi-square tests indicated those who are not concerned with their weight, know what a balanced diet is, eat a well-balanced diet, and exercise for 30 minutes at least 3 times a week consider themselves to be healthy. Students who exercise for 30 minutes at least 3 times a week are 5.5 times more likely to consider themselves to be healthy. Students who use prescription drugs to get high are 6 times more likely to participate in risky sexual behavior. Furthermore, students who participate in risky sexual behavior are 3 times more likely to have been in a relationship of assault. These findings suggest that students need

more information in identifying and decreasing risk factors for their age group. Interventions of health promotion were proposed to University representatives. Funded by SUU UGRASP and SUU Nursing Department.

2:30

Procrastination, Perfectionism and How They Correlate with Shame Coping-Styles

Randi Webb and Jeff Elison

Procrastination has been defined as “the habitual delay of tasks that is ultimately detrimental to task success”. Procrastination may also be a method of controlling how others perceive the procrastinator. Perfectionism is when a person requires absolute perfection in the way they perform a task or they believe they failed. Some of the social motives associated with procrastination and perfectionism have been linked to shame. Worrying how others perceive them may trigger shame in some people. When experiencing shame there are four coping styles represented by the poles of a compass labeled: Attack Self, Withdrawal, Attack Other, and Avoidance. Procrastination, perfectionism, and shame-coping styles were assessed in a sample of undergraduate students via the General Procrastination Scale, the Perfectionism Inventory, and the Compass of Shame Scale, respectively. Results are pending, but we hypothesized that procrastination and perfectionism would be related to internalizing styles of shame-coping.

2:45

Forgiveness, Empathy and Self-Esteem: A Relation to Pro-Social Behavior

Adrian Tinajero and Jeff Elison

Undergraduates (n=31) completed the Interpersonal Reactivity Index, PANAS and Momentary Mood Scale after viewing one of two videos chosen to induce positive feelings related to comedy or forgiveness. They were then given an opportunity to behave pro-socially, with the hypothesis that witnessing forgiveness would motivate greater pro-social behavior. There was a significant effect on pro-social behavior by the forgiveness video. Also, there was a significant effect on pro-social behavior and age. There was not a significant effect on empathy by either video. However, there was an effect on feelings such as “strong”, “inspired”, “distressed” and “upset”. Witnessing forgiveness could increase the likelihood of acting pro-socially. More details pending.

POSTER PRESENTATIONS

Posters will be presented in the Living Room at the east end of the Sharwan Smith Center. Presenters are asked to remain beside their poster for the time indicated.

Art & Design (1:30-3:00)

Discovering the Art of Mask Making: A Personal Journey

Daniel Self

The process of developing and creating a functioning theatrical mask was explored using varying techniques which include: facial expression study, research on historical/cultural mask styles, personal reflection, examination of personal photographs, research on paper mache techniques, and painting/shading techniques.

The Mystique of Masks Jillian Pagan

Masks have held significance in both world culture and performance art for centuries. People are drawn to masks, fascinated not only by their traditional sacred ceremonial meanings, but also the amount of detail and artistry that goes into mask-creation. Though the use of color, shape, expression, texture and embellishments vary from mask to mask, culture to culture, mask-makers both ancient and modern of many different nations carefully choose the right balance of these elements to create the perfect mask. By integrating research of historical mask-making techniques from a variety of ethnic groups, visual aides that explore human expression, and personal creativity, I have created a performance-ready expression mask that combines techniques of Noh and Commedia mask-makers, as well aspects of Kabuki theatrical make-up.

A Research Project in Mask Performance Meggan Steffensen

The effect of masks on a performer was examined through creating and using masks in a studio intensive acting class. The research shows the process of creating the mask, working with the mask, modifying the mask, and then recording the effect the modifications have on the overall performance and functionality for the performer.

Biology (1:30-3:00)

The Affect of pH on Plant Growth Adam Weagle, and Gaven Smith

Helianthus annuus (sunflower) is important to many economies, found in every soil type, and is distributed across North America. The variant "Pacino Gold" was selected, because its dwarf size was manageable in the greenhouse. All plants were grown in a soilless mix for eight weeks. Three replicates of 12 specimens were included in each treatment that applied water solutions of seven pH values (4.5 - 9.5). Plant height, number of leaves, leaf length, leaf wilt, and reproduction were recorded weekly. At the end of the growing period, stem width and total biomass were quantified. Regression and ANOVA analyses (SPSS) revealed significant growth affects from the various solutions. Using light and electron

microscopy, this study continues to investigate how the observed morphological affects are manifested on the cellular level.

Geology (10:00-11:30)

Freshwater Fossils in a Shale Unit of the Upper Cretaceous Iron Springs Formation, Parowan Gap, Iron County, Utah
Sung-Hoon Kim, and Frederick Lohrengel

The Parowan Gap area of Iron County Utah is dominantly freshwater facies of the Iron Springs Formation, (Upper Cretaceous). Lithologically, the Iron Springs is composed of interbedded sandstone and shale/mudstone. Molds of dinosaur tracks occur on the bottom of multiple sandstone layers. This study looks at small invertebrate and plant remains contained in one of the mudstone layers. Gastropods are both turreted and trochospirally coiled, and range from <1cm to >2cm tall. Pelecypods are mostly clams and range from <1cm to >2cm long. Virtually all are crushed. In addition there are rhizolith fragments <1cm diameter by 3cm long plus leaf cuticle fragments that appear to be carbonized, suggesting remnants of a fire. What appear to be opalized stem fragments are also present. All of these fossils are indicative of a low-lying, freshwater coastal region.

Henrieville Sandstone: Late Depositional Dune Facies of the Entrada Formation, Garfield and Kane Counties, Utah
Joshua Cox and Frederick Lohrengel

Final stages of the Entrada Formation (Callovia) developed into an aeolian sequence in south central, Utah. The Henrieville Sandstone (informal name) was deposited in the 15-25 North latitudes. North of Henrieville deposition was the Sundance Sea. Paleowind directions are dominantly from the northwest. The Henrieville is white, poorly cemented, sub mature, moderately sorted, fine- to medium-grained, winnowed, quartzose sandstone. The sand appears to be bimodal. The Henrieville Sandstone is restricted to outcrops in the GSENM between Henrieville, Utah and Grosvenor Arch, Utah. The unit measures 58.2 meters thick and shows a conformable base and disconformable top. The differing influences of deposition distinguish the Henrieville from the underlying Escalante Member; cross-bedded dunes mainly influenced by wind or water. Disconformably overlying are pebble conglomerates that mark the beginning of the Dakota Formation (Cenomanian).

Nursing, Political Science, & Psychology (1:30-3:00)

What is the Evidence to Base Nursing Care of the Patient Requiring a Cardiac Balloon Pump
Jack Waters and Lynne L. Ornes

In order for nursing to become an evidence based practice, more evidence based research needs to be conducted. Hospitals and State Boards should have evidence to support every policy that is in place.

Many complications have been associated with cardiac balloon pump catheters. Little if any research has been done to suggest how to avoid many of the complications. This study reviews the few studies that have been performed regarding specific complications, and provides insight as to further research that may strengthen evidence based care and the cardiac balloon pump.

Romantic Dating in an Era of E-mails and Text Messages: Frequency of Use and Perceptions of Success

Mike Hyde and Lynn H. White

The extent to which e-mail and text messaging (TM) are used to request and respond to a date, relative to more conventional forms of communication was investigated. Undergraduate students completed a dating questionnaire which manipulated the degree of familiarity between the respondent and the hypothetical person asking them out, and the degree of attraction toward that hypothetical person. The results showed that participants would most likely accept a date if asked face to face, followed by phone, TM, and e-mail. This pattern was the same regardless of whether participants had neutral, mild or strong feelings toward the person. When asked how often participants actually asked and/or accepted a date using each method, the relative order of the methods used matched the order obtained in the hypothetical scenarios. These results suggest that although TM and e-mail are used to ask for and accept dates, they have not surpassed more traditional means of communication.

Color Affects Flavor Identification and Taste Preference for Ice Cream

Sarah Jade, Hallie Fike, and Lynn H. White

This study established the effect that visual cues have on flavor identification. The independent variables were color of ice cream and vision: half of the participants were blindfolded, half were sighted. The blindfolded group was a control used to ensure that the food coloring additive itself did not alter the ice cream's taste. The dependent variables were likeability and flavor identification. Participants tasted four vanilla samples colored red, green, yellow, and white. It was hypothesized that the control group would identify all four ice cream samples to be vanilla while the sighted would report a flavor congruent with the color. The results indicated that the blindfolded group identified vanilla correctly more frequently than the sighted group. The independent variables had no significant effect on likeability scores. These results suggest that color does influence flavor identification.

Stress Toys: Effective Stress Relief or Just an Excuse for Adults to Play with Toys?

Ashley Mortensen and Lynn H. White

The effectiveness of "stress toys" to relieve physiological and psychological correlates of stress was investigated. After completing the Perceived Stress Scale (PSS), undergraduates were assigned to a toy (Silly Putty or squeeze ball) or no toy group. Participants in the toy group used their toy in response to stress for one week. All participants completed a stress chart to document the occurrence of stress. 7-10 days later, participants returned to the lab. Physiological responses to the PSS and to a sudden noise were assessed via skin conductance response (SCR). Although non-significant, the results were consistent with the hypothesis that stress toys effectively reduce physiological responses to stress. Unexpectedly, when told to "play" with their toy, SCR was significantly higher for this group compared

to the no toy group. These results suggest: a) fidgeting increased movement artifacts and/or b) consistent pairing between the toy and stressors the week before produced a classically conditioned stress response.

Behavior-Specific Praise as an Intervention in the Classroom

Tiffany Leigh Scholes and Leslie N. Jones

This study examined the effects of behavior-specific praise (BSP) on decreasing disruptive behaviors by increasing desirable on-task behaviors in the classroom. Two elementary school teachers and five second grade students participated in the study. An ABAB design was used with the teachers implementing the intervention. Results suggest that students' disruptive behaviors decreased and on-task behavior increased when teachers applied BSP consistently.

Kingdom of Heaven: A Sociopolitical Comparison and Forecast of Muslim and Latter-Day Saint Approaches

Marc Dotson and Logan Reid

These purpose of Ridley Scott's Kingdom of Heaven echo the sentiment of present-day moderate voices in the call for peace, for a better world, for a kingdom of heaven, but what exactly does a "kingdom of heaven" mean? This paper explores the similarities and contrasts between these two religions and their political concepts of the "kingdom of heaven". More precisely, this paper examines the tension between religion and democracy, and the question of where political authority lies. Can a democracy exist without a separation of church and state? What do these religions and their history offer us in regards to religious pluralism and the compromises that might possibly pave the way for political stabilization in foreign countries? This paper treats these questions and offers insight on the possible application of historical examples.

Nutrition (10:00-11:30)

Are Childhood Food Rules Linked to Young Adult Eating Behaviors?

Alicia de Wolfe and Matthew Schmidt

This study's purpose was to determine whether childhood food rules /experiences have an effect on young adult eating behaviors. A self-reported survey was completed by 299 students (42% male, 52% female), mean age 20.5, SD 3.95. Survey examined childhood food memories and a standardized eating attitudes test (EAT). The EAT is used to identify risks of developing an eating disorder where a higher score may indicate disordered eating. Results indicated a significant positive correlation ($p < 0.05$) with regard to a higher EAT score and being rewarded with food, receiving food rewards for accomplishments, being forced to eat disliked foods, being told that certain foods would make you fat, and emphasized being thin/dieting during childhood. Results suggests that certain childhood food rules /experiences effected present eating habits in this population according to their EAT score, thereby implying that certain food rules /experiences may play a role in the development of disordered eating.

Dietary Behaviors of Preschool Children in a Culturally Homogeneous Rural Community

Jana Gubler Houston

Most American children do not meet minimum dietary recommendations. This study was conducted to determine whether diets of preschool children in a small, culturally homogenous rural community are influenced by parental age, education level, or socioeconomic status. Parents of 74 preschool children were surveyed for nutritional knowledge, demographic information, and food frequency of children's intake. Mean age of the children was 3.89 (SD =.49). Parental demographics ranged: age 21-16 yrs, income \$800-\$10,000/mo, 42% high school education or less, 54% higher education. Eighty-three percent of parents scored >75% on the nutritional knowledge survey. Parental knowledge didn't translate into children's consumption of recommended food groups. Comparing food intake to MyPyramid.gov, no children met recommendations for all food categories. Percent of children meeting food recommendations: milk (86.8), bread (56.6), fruit (25%), meat (23.7%), vegetables (3.9%). This community appears knowledgeable, but nutrition behavior doesn't comply. Improving food intake is needed regardless of parental demographics.

Impact of monitoring physical activity level on physical activity level

Jessica Shields and Cynthia Wright

The purpose of this study was to assess the impact of actual knowledge of level of physical activity on the activity level of college students. BodyMedia armbands and wrist displays were used to gather and display physical activity data. Twenty volunteers (10 male, 10 female) between the ages of 18 and 25 wore the armband during week one. During week two, the subjects wore both the armband and a wrist display that allowed them to view their activity level moment-by-moment, if desired. It was hypothesized that activity levels would increase during the second week when subjects could see the level of their activity (steps taken and calories burned). Data showed a significant difference between total steps taken ($p=0.30$), time spend lying down ($p=0.042$) and time spent sleeping ($p=0.039$) between the two weeks. However, the hypothesis was not supported since the participants were more active during week one than week two.

Potability of Household Water Storage in Cedar City, Utah

Katelin Atkin, Stacey Juntunen, and Cynthia Wright

Water is an important commodity to have in case of an emergency. The purpose of this study was to assess the quality of stored drinking water among Latter-Day Saints in Cedar City, Utah. Forty-nine participants were recruited and asked to fill out a survey. Two 100-milliliter samples of water were collected from each container of water storage. A presence/absence test was conducted on the first sample to determine if the water contained coliforms, and further evaluated for the presence of E. coli. The second sample was analyzed for chlorine content. We hypothesized that all the water samples would be free from coliform contamination. We found that stored water from the city system is significantly less likely to contain coliforms than water from other sources ($p=0.034$). Data showed that water stored in a garage was significantly more likely to contain coliforms than water stored in any other location ($p=0.036$).

Sugar Content Consistency in Fountain-Dispensed Soft Drinks and Canned Soda
Kayla McEntire, Janelle Money, Nick Thompson, and Cynthia Wright

The purpose of this study was to compare the consistency of the sugar content of fountain-dispensed soft drinks and to compare them to their canned counterparts. One-ounce samples of four sodas were obtained from five sources in Cedar City, Utah over a period of 8 weeks. Cans of each soda were also purchased from four different locations to use as the control. The sugar content (percent Brix) of all samples was measured using a Palette Digital Refractometer. SPSS 13.0 was used to conduct t-tests, univariate, and oneway analysis of variance statistics on the data. Findings indicate there is minor regularity in the sugar content of a fountain drink purchased at the same location on different occasions ($p=0.046$). Sugar content of fountain drinks also differs based on location of purchase ($p=0.005$). The sugar content of nearly one-half of the fountain drinks were significantly different ($p<0.05$) than their canned counterparts.

Nutrition (1:30-3:00)

Hydration Status of Collegiate Female Basketball Players at Southern Utah University
Kristina Peterson and Matthew Schmidt

Proper hydration is important for mental and physical performance. The purpose of this study was to examine the attitudes of collegiate female basketball players and coaches with regard to hydration and determine hydration status before practice, after practice, and 24 hours later. Ten athletes mean age 19.3 SD= 2.0 were recruited. Subjects followed their normal practice routine which lasted ~2 hours. Urine samples were collected. Urine specific gravities (USG) were measured to determine hydration status. USGs indicated athletes came to practice minimally dehydrated, left significantly dehydrated, and returned the next day minimally dehydrated. Subjects and coaches were surveyed on the importance of hydration. Players and coaches viewed hydration as important. Players believed hydration effected performance more than coaches did. Players did not believe that their hydration status was adequate. These findings suggest that players feel that proper hydration is important and due to their inadequate intake would benefit from education.

Hydration, Nutrition, and Energy Expenditure of Female Collegiate Gymnasts
Savanna Sorensen, Daneile Snelling, Alyssa Smailes, and Matthew Schmidt

The purpose of this study was to determine caloric needs, dietary habits, and hydration status of SUU gymnasts. Fifteen gymnasts, mean age 19.3 SD= 1.05 participated. Seven-day food records were collected. Urine specific gravity (USG) was collected for five practices and one meet. Body Media armbands measured caloric needs. Armbands indicated that gymnasts' average caloric needs were 2811 kcals during workout days and 2198 kcals during non-practice days. Nutrients of concern were water, vitamin D, vitamin E, magnesium, and potassium. USGs indicated athletes came to practices/meet minimally dehydrated and left significantly dehydrated. Gymnasts had a low caloric intake 67.1% of expected, which resulted in low macronutrient/micronutrient consumptions, putting them at risk for

injuries. Athletes didn't come to practices/meet adequately hydrated and became significantly worse which could affect their mental/physical performance. This population would benefit from nutritional education and strategies which could be implemented to help them meet their nutritional recommendations.

Headache Prevalence Among Undergraduate Students Mindi Naegle, and Matthew Schmidt

Headache/migraine can be triggered by multiple factors. Anecdotal evidence suggests that a relationship exists between what we consume and incidence of headache/migraine. This study's purpose was to identify frequency of student headache/migraine, percentage of students who identify specific environmental and dietary triggers, and percentage of students who avoid specific foods to prevent headache/migraine. Information was surveyed. While 65% of respondents experience headache and 24.2% experience migraine, only 14.6% avoid specific foods to prevent headache/migraine. Seventy-seven percent identified stress as an environmental trigger; 52.2% identified missed meals as a dietary trigger. This suggests that people don't correlate diet with headache/migraine. This may suggest that individuals have varying thresholds. It is believed that everyone has a threshold, a unique preset level of trigger input, which, once exceeded, leads to headache/migraine. Education regarding dietary triggers and how these may meet/exceed one's threshold may help individuals decrease headache/migraine incidence.

Intuitive Eating Among Southern Utah University Students Katilyn Milford, Kimberly Mathews, Amberlee Lynn, and Cynthia Wright

Obesity in American has been increasing over the past several decades. It has been suggested that intuitive eaters, those who eat in response to hunger as opposed to physical and emotional reasons, are more likely to have an appropriate body weight. The purpose of this study was: (1) to assess intuitive eating behaviors in students at Southern Utah University, (2) to assess the relationship between intuitive eating and BMI, and (3) to assess the relationship between weight satisfaction and intuitive eating. Four-hundred-thirty-nine students enrolled in general education classes at Southern Utah University completed a paper-pencil questionnaire which included the Intuitive Eating Scale (Tykka, 2006). The Intuitive Eating Scale contains three subscales: unconditional permission to eat, eating for physical not emotional reasons, and reliance on internal hunger/satiety. Data was analyzed using SPSS 13.0 for Windows. Results showed a significant negative correlation between the score on the IES and BMI ($r=-0.206$, $p=0.000$).

Comparing Childless Single Males' and Females' Attitudes and Knowledge of Breastfeeding Lauren Challis, Matthew Johnson, Artis Grady, and Matthew Schmidt

Breastfeeding (BF) is recognized as the best option for infant feeding. Many resources are being used to encourage the public to BF. Lack of support in the home, false perceptions of the partner's attitude, lack of basic knowledge about BF and no prior determination to continue despite conflicts have been seen as obstacles. Whereas previous studies examined attitudes of fathers, pre-natal and post-partum couples,

the purpose of our study was to determine childless, single males' and females' knowledge of BF and their attitudes towards it. Two hundred and fifty males (mean age 20.9 SD=2.5) and 276 females (mean age 19.6 SD=2.1) were surveyed about their attitudes and beliefs towards BF. Results indicated statistically significant differences ($p<.05$) in attitudes of males and females regarding the importance of BF, the function of the breasts, if BF damages the breasts and benefits BF provides for the mother and infant.