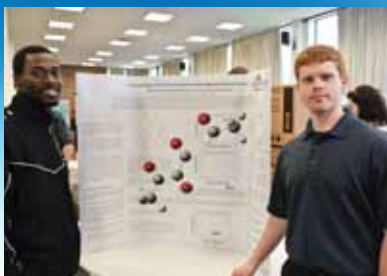


Celebration of Scholarship and Creativity



Worcester State University
April 18, 2012

www.worcester.edu/research

SCHEDULE OF PANEL PRESENTATIONS

BLUE LOUNGE

10:00-10:45 - Computer Science

EXPANDING EDUCATIONAL PATHWAYS IN COMPUTER SCIENCE – PEER MENTORING AT WSU

James Forkey, Trevor Hodde, Dillon Murphy

Faculty Advisers: Aparna Mahadev, Ph.D., Karl Wurst, Ph.D.

10:45-11:30 - Sociology

HISTORY MOVES IN SPIRALS: SUBSISTENCE TECHNOLOGY AND SOCIAL MOVEMENTS

Gary Marinin

Faculty Adviser: Matthew Johnsen, Ph.D.

11:30-12:15 - Physical and Earth Sciences

BLOWING IN THE WIND: PERSISTENT PLASTIC BAG POLLUTION AROUND SHOPPING CENTERS

Jon Kendall

Faculty Advisers: William Hansen, Ph.D., Stephen Healy, Ph.D.

12:15-1:15 - Philosophy

MASS VIOLENCE AGAINST WOMEN: NEW RESEARCH ISSUES

Rachel Brown, Victoria Celia, Alyssa Huckins, Lauren Hunter, Trevor Perry, Miranda Smith

Faculty Adviser: Henry Theriault, Ph.D.

PRESENTATIONS IN OTHER LOCATIONS

12:30 p.m. - World Languages - Sullivan Building, Room 301

THE FAILURES OF THE ECONOMIC EMBARGO AGAINST CUBA

Joseph Teevens

Faculty Adviser: Guillermina Elissondo, Ph.D.

1-5 p.m. - Visual and Performing Arts – The Gallery (GSTC)

THESIS SHOW

Bethany Eddy, Kayla Feist, Lukas Godaire, Brittini Kirk, Bethany Strothers

Faculty Advisers: Stacey Parker, M.F.A., Amaryllis Siniosoglou, M.F.A., Catherine Wilcox-Titus, Ph.D.

7:45 p.m. - Philosophy - Ghosh Auditorium (ST 102)

“GRANDMA’S TATTOOS”: DOCUMENTARY SCREENING AND PANEL DISCUSSION

Faculty Adviser: Henry Theriault, Ph.D.

A film showing and panel discussion.

A Celebration of Scholarly and Creative Accomplishments

Welcome to the Fifth Annual Worcester State University Celebration of Scholarship and Creativity. This event has become a very special yearly tradition on our campus that highlights what goes on every day across our academic programs—namely, faculty mentoring students on scholarly, research, and creative projects. Of course, our faculty have always excelled in effecting student learning in the classroom; our history and our mission are, after all, as a student-centered, teaching institution. Increasingly, however, we have come to understand that another vital aspect of student learning takes place outside of the classroom, in the laboratory, the studio, the archive, working with faculty and other students in the discovery and communication of the knowledge and the development of skills that result from experimentation and analysis, from contact with primary source materials, and from practice and inspiration.

Today, you will see and hear the impressive outcomes of our emphasis on scholarship and creativity. This year, we offer a range of student and faculty work that includes poster presentations, critical paper presentations, panel discussions, a documentary film, and an art exhibit, all representing work across the academic disciplines, from the natural and social sciences to the arts and humanities.

So please enjoy our 2012 celebration of the scholarly and creative accomplishments of our faculty and students.

Charles Cullum, Ph.D.
Provost/Vice President
Academic Affairs



BIOLOGY

EMERGENCY MEDICINE RESEARCH: AN UNDERGRADUATE'S EXPERIENCE VOLUNTEERING IN THE EMERGENCY DEPARTMENT

Veronica Adams

Faculty Adviser: Randall Tracy, Ph.D.

I am an interning Research Assistant on an NIH-funded study at UMass through the Department of Emergency Medicine Research, looking at the tobacco use of patients and visitors in the ED. Today's medical disparities make this a great place because patients who do not regularly visit primary care doctors are not receiving tobacco intervention elsewhere. These interventions can have a lasting impact by making patients think about their tobacco habits, assessing their quitting ability, and offering patients a referral to the Massachusetts QuitLine for cessation support.

This volunteer-given study prevents interruption of the flow of care in the hospital and allows patients to see another friendly face. I have learned about the confidentiality, mechanics, and clinical aspect of research firsthand. I have learned how to navigate around the ED, interact with patients and have begun to develop a bedside manner that cannot be learned from a textbook.

MICROSCOPIC LIFE FOUND IN A GARDEN SOIL IN WESTBOROUGH, MASS., BY STUDENTS OF A SOIL BIOLOGY COURSE

P. Bradley, M. Abdulkadir, C. Androwski, T. Antkowiak, A. Blood, Y. Colon, A. Ferdinand, N. Fuller, C. Germain, R. Giguere, A. Le, M. Long, C. Ngo, T. Nguyen, L. Ouellette, G. Raheb, R. Taylor, A. Turner and A. Vakhshouri.

During the fall semester (2011) the students of the Soil Biology course studied the interactions between organisms. In the laboratory part of the course several techniques were used to isolate organisms from soil samples. Bacteria, fungi and nematodes were examined. In another of the experiments, and as shown in this presentation, micro-invertebrates were collected from a garden soil using the Berlese-Tullgren funnel method. The animals were collected in 70% ethanol, air dried and coated with gold in a sputter coater and then viewed with the University's scanning electron microscope. The pictures show a range of organisms that are present in many soils. These included nematodes, millipedes, mites and ticks. A tardigrade species was found in a student's flower pot. Some of the pictures are presented in this poster.

IDENTIFYING MANGANESE/IRON TRANSPORT GENES IN RUBROBACTER RADIOTOLERANS

Katherine Figella

Faculty Adviser: Daron Barnard, Ph.D.

Extremophiles are a unique class of bacteria. One type of extremophile is the radiophile: these bacteria can sustain large amounts of radiation without letting their DNA degrade. Our research focuses on the radiophile, *Rubrobacter radiotolerans*. The importance of understanding its radioresistance mechanism makes it a potential agent in regards to the treatment of radioactive waste and tumor control. One possible mechanism responsible for its radiotolerance is the transport of manganese and iron into the cell. The efflux of manganese results in an increase in the intracellular manganese concentration and a drop in the intracellular iron concentration, which protects proteins from being damaged by super radicals. This is thought to allow DNA damage repair to occur in the presence of high levels of radiation. Our research focuses on using comparative genomics to identify and annotate the possible genes by in *Rubrobacter radiotolerans* used for this particular transport.

BIOTECHNOLOGY

BIOREACTOR DESIGN, OPTIMIZATION AND SCALE UP OF CHLORELLA VULGARIS FOR LIPID PRODUCTION

Alan Grant, Jonathan Parrella

Faculty Adviser: Maura Pavao, Ph.D.

Over the past decade, there has been increasing interest in developing alternative fuel sources to fossil fuels. One potential source, microalgae, is advantageous because not only do the cells produce lipids during growth, but they also can use carbon dioxide generated during industrial processes as a carbon source for photosynthesis. The goal of this project is take a *Chlorella vulgaris* cell line that produces oil and identify process strategies to grow the cells in a 1.0 L bioreactor. Previous studies with a New Brunswick Scientific Bioflow 115 stirred tank bioreactor indicated that the microalgae like to form a biofilm on the stainless steel parts of the reactor, leading to decreased growth rates. As a result, this project involved designing a novel air-lift reactor that would allow the algal cells to grow in suspension.

BIOCOMPATIBILITY TESTING USING VERO CELLS CULTURED ON SOME POLYAMIDE POLYMERS FILLED WITH NANOPARTICLES *

Abedin Koshi, Daniel Schmidt, Emmanuelle Reynaud, Peter Bradley

The presence of nanoparticles could change the properties of plastics that contain them. In this study, several semi-crystalline polyamide plastic samples were tested for biocompatibility by studying the growth of mammalian tissue culture cells on the plastics. These included Grilamid TR90 and Trogamid CX7323 plastics with and without a filler of 1% w/v of inorganic natural montmorillonite nanoparticles (Cloisite 30B). Sterilized samples were seeded with African green monkey kidney cells, the cells were cultured for two weeks and counted with a Coulter counter at several time points. Changes in the appearance of cells were examined with phase contrast microscopy and scanning electron microscopy. The cells failed to grow but after about 10 days the cells on Grilamid TR90 filled with Cloisite 30B did recover and increased in number. The presence of the nanoparticles made one plastic less harmful to the cells than when the nanoparticles were not used.

CHARACTERIZATION OF TRANSPOSON INSERTION MUTATIONS IN AGROBACTERIUM TUMEFACIENS STRAIN C58

Alyssa McCarthy

Faculty Adviser: Maura Pavao, Ph.D.

Agrobacterium tumefaciens is a soil bacteria and plant pathogen that is widely used in plant biotechnology as an organism that can be used to genetically modify plants. To understand the genetic basis for metabolic and cellular function in *A. tumefaciens*, a transposable element, Tn5-RL23, was introduced into the bacteria, thereby creating random mutations. Tn5-RL23 carries a gene for kanamycin resistance so it can be used to select for *A. tumefaciens* with inserted transposons. These random mutations will be characterized by sequencing the *A. tumefaciens* genome next to the transposon insertion. Finally, the individual genes disrupted in the mutants will be identified and connected to a particular phenotype of the bacteria. This information may lead to new information about the pathogenicity of *A. tumefaciens*.

BUSINESS/ECONOMICS

FACILITATING A PARTICIPATORY CULTURE ON CAMPUS

Nick Asterito, Hurley Kane, Smbat Defterdarian, Mark Owen, Brenton Dyok

Faculty Adviser: Joan Mahoney, Ph.D.

WSU currently has a 32% residential population. Campus-related, culture-enhancing social opportunities are in demand. The WSU men's ice hockey team has struggled lately. During 2010-11 the team improved, but fan attendance did not; average overall attendance =30. The lack of home-ice support impacts the moral of the team. Addressing both issues, SIFE secured funding for a free Fan Bus to transport students to 2 home games. We created two linked social media accounts, tweeted updates from the games and advertised the Fan Bus via traditional print ads and a Buzz campaign. This multi-pronged strategy succeeded; 48 students rode the first bus; over 72 student fans attended. The second bus attendance was less robust with 12 students riding. Attendance at the game was still up by 70+ fans. Senior night and other mitigating circumstances considered, student attendance was still over the 45+ range.

SMALL BUSINESS SUSTAINABILITY AND PERFORMANCE IMPROVEMENT

Julie Broderick, Greta Bajrami, Anthony McDonnell, Freddy Campoverdoe, Mikel Shkempi

Faculty Adviser: Joan Mahoney, Ph.D.

We met with the owner to discuss issues and identified the following key areas: energy consumption, signage, web presence, business expansion opportunities, marketing and optimizing current resources. The team then investigated energy audit options, developed a number of alternate signage options keeping budget and local codes in mind, and analyzed and presented various website development routes. We conducted a SWOT analysis, explored business expansion opportunities and developed focused marketing campaigns. We designed and conducted market research surveys and implemented a marketing campaign. Energy savings estimated at \$948.00 per year are underway; more to follow. Tracking systems are in place to capture increased business due to targeted marketing. New signage is in development.

DEVELOPING AND MARKETING CAREER ENHANCEMENT OPPORTUNITIES AT WSU

Robert Cummings, Christa Ferraro, Morgan Tienhaara, Derek Canton

Faculty Adviser: Joan Mahoney, Ph.D.

The Career Mentoring and Marketing SIFE team worked closely with faculty and staff to create and/or advertise career development opportunities for WSU students. We sponsored and advertised two Resume Writing/Interview Skills workshops which serviced approximately 52 business students, attended an intense resume review workshop, and arranged peer critique hours. Working closely with Career Services, we created an advertising campaign to increase awareness and attendance at the 2012 Worcester Consortium Career Fair. Using a variety of print, electronic and social media, we circulated information to the campus community. Employing a Buzz campaign, we set up at the Sullivan T with information packets, food and drink, and one-on-one connections to generate interest and provide more detailed information. It is estimated we conversed with 1000+ students over the two day campaign.

SPORTS ETHICS AND BUSINESS ETHICS *

Nikki Scott

Faculty Adviser: Laurie Dahlin, D.B.A.

Ethics consists of values—respect, integrity and fairness, and it can be applied to both the sports world and the business world. Most athletes believe that winning is everything, and there is pressure to do whatever it takes to get that ring or gold medal whether it is unethical or not. While ethics should be measured the same across the board, it seems as though business ethics violations are taken more seriously than sports ethics violations. In business, unethical behavior has serious consequences, but this is not the case in the sports world. For the game to stay fair and evenly matched there needs to be more than just a slap on the wrist or a fine for unethical behavior in sports. This poster will encourage thought as it discusses business ethics and sports ethics and the different treatment of unethical activity by business people and by sports figures.

CHEMISTRY

GREENER SYNTHESIS AND PHOTOCHEMICAL PROPERTIES OF COUMARIN-CONTAINING POLYMER

Eugene S. Bah

Faculty Adviser: Margaret Kerr, Ph.D.

A greener solvent-free method was employed in the synthesis of 5,7-dihydroxy-4-methylcoumarin, a photosensitive coumarin derivative, by the Pechmann mechanism. This coumarin derivative was further modified through substitution chemistry to produce 5-(1-bromopropyl)-7-octyl-4-methylcoumarin. The ultimate goal is to attach the modified derivative to a polymer chain and monitor the rate of photodimerization and structural changes imposed on the polymer as a result of the addition of the photoactive moiety. The coumarin-containing polymers have potential applications as water-soluble negative photoresists in the manufacture of microelectronic circuit boards.

WATER AS A SOLVENT FOR GREEN CHEMISTRY

Holly Collins

Faculty Adviser: John Goodchild, Ph.D.

Organic solvents from the laboratory or factory should not be released into the environment. The philosophy of Green Chemistry is that would be better to avoid such solvents altogether rather than attempt to minimize any harm they may cause. Water is a benign solvent but does not dissolve most organic compounds (oil and water don't mix). However, some four billion years ago, the first living things discovered how to manufacture organic compounds within the watery environment of cells. One strategy was to attach phosphates to the oil-like organic molecules – a process known as phosphorylation. This makes the organics more soluble in water. Green Chemists would also like to overcome the oil and water problem and substitute water for organic solvents. Here, we will describe our attempts to phosphorylate organic compounds in the presence of water.

IONIC LIQUIDS: HOW CAN WE MAKE THEM GREENER?**Huong Dong***Faculty Adviser: Meghna Dilip, Ph.D.*

As traditionally synthesized ionic liquids are derived from non-renewable sources, and their synthesis requires the use of volatile solvents. In this project ionic liquids were synthesized without the use of solvent/ with minimal solvent using microwaves. It is proposed to further study the degradation of ionic liquids by light, to understand the mechanisms by which these substances may be degraded in the environment.

CALCULATING THE RATE CONSTANT OF QUENCHING OF TRIS(BIPYRIDINE)RUTHENIUM (II) BY COPPER (II) AND IRON(II)**Isaac Dzomeku, Keith Dusoe***Faculty Adviser: Joseph Quattrucci, Ph.D.*

CH 304, Physical Chemistry Laboratory II, is a course that is offered at Worcester State University and is a project-oriented laboratory section. During the spring 2012 semester, students researched the chemical literature, developed a lab protocol and performed experiments that they developed, ultimately creating a lab protocol that can be used by students taking CH 303, Physical Chemistry Laboratory I. Fluorescence occurs when a material emits light upon being irradiated by some energy source. Quenching refers to a process that causes the intensity of fluorescence to decrease. Fluorescence spectroscopy was used to monitor the fluorescence of Ru(bipy)₃²⁺ and the ability of Cu²⁺ and Fe²⁺ to act as quenching agents. Solutions of varying concentration of Cu²⁺ and Fe²⁺ were added to a stock solution of Ru(bipy)₃²⁺ in HCl and fluorescence spectra was collected. The rate constant of the quencher, k_q , was calculated for each system.

SYNTHESIS OF 7-(3-BROMOPROPOXY)-4-METHYLCOUMARIN FROM 7-HYDROXY-4-METHYLCOUMARIN AND 1,3-DIBROMOPROPANE IN ACETONITRILE**Daniel Erhagbai***Faculty Adviser: Margaret Kerr, Ph.D.*

Coumarin is a natural chemical compound found in some plants, which can be synthetically produced as well. Coumarin has a unique smell that led people to the use of it in food additives and as an ingredient in perfume and cosmetics. Coumarins have interesting photochemical properties, and they dimerize when exposed to light. The addition of other substituents onto coumarin to form other derivatives is possible synthetically. A coumarin derivative, 7-(3-bromopropoxy)-4-methylcoumarin will be synthesized from 7-hydroxy-4-methylcoumarin. Characterization of the product will be accomplished by ¹H NMR, melting point, and TLC (Thin Layer Chromatograph). The ultimate aim of the experiment is to synthesize a water-soluble coumarin containing polymer using polyvinyl alcohol. The photochemistry of this polymer will then be studied.

USING THE DIFFERENTIAL SCANNING CALORIMETER AT WSU**Christin Harrington***Faculty Adviser: Meghna Dilip, Ph.D.*

WSU recently obtained a differential scanning calorimeter (DSC). This instrument has been used in the classroom and in research through the spring semester. We will present an overview of the instrument, as well as how it has been used in the laboratory. Specifically, a study with ionic liquids will be presented as a case study. Ionic liquids have been touted as an alternative to volatile organic solvents, but a fundamental understanding of these materials is still lacking. Here we use the DSC to study aggregation in aqueous solutions of ionic liquids.

SYNTHESIS OF COUMARIN-CONTAINING POLYMERS**Ben Sedzro***Faculty Adviser: Margaret Kerr, Ph.D.*

Three coumarin derivatives were successfully synthesized: 7,8-dihydroxy-4-methylcoumarin, 8-hydroxy-4-methyl-7-octoxycoumarin, and 8-(3'-bromopropoxy)-4-methyl-7-octoxycoumarin. The first compound was synthesized through the Pechmann condensation, while the other two followed substitution chemistry. Coumarin compounds are known to be photochemically active and exhibit dimerization characteristics. For this reason, all three compounds were synthesized without exposure to light. To determine if the required compounds were synthesized, ¹H NMR, and FTIR were used for characterization. Currently, separation techniques are being performed to maximize the yield of 8-(3'-bromopropoxy)-4-methyl-7-octoxycoumarin. The final goal of this project is to synthesize a coumarin-containing polymer using polyvinyl alcohol, which will be utilized as a negative photoresist. After the synthesis, the photochemistry and solubility properties of the polymer will be analyzed and investigated.

GREEN CHEMISTRY EXPERIMENTS FOR UNDERGRADUATE LABORATORY

Jennie Tran, Huong Dong

Faculty Advisers: Meghna Dilip, Ph.D., Margaret Kerr, Ph.D.

We have worked on a series of experiments for an upper level elective “Green and Environmental Chemistry Laboratory.” Experiments proposed include testing of green cleaners and using greener catalysts for environmental remediation among others. Each laboratory is designed to communicate one or more principles of green chemistry. The laboratory experiments also seek to differentiate green chemistry from environmental remediation.

CHANGE IN ABSORBANCE OF MYOGLOBIN WITH DENATURATION

Erin Williams, Stephanie Morin, Roger Saurusaitis

Faculty Adviser: Joseph Quattrucci, Ph.D.

The purpose of this work is to develop new experiments for future Worcester State University Physical Chemistry Laboratories. These experiments will enhance the curriculum and demonstrate concepts being taught in the Physical Chemistry lecture. The students have the goal of incorporating more instrumentation into the chemistry curriculum to better prepare students for graduate school or work in the field. The experiment presented here, measures the change in absorbance when myoglobin undergoes denaturation. This experiment has been adapted from C. M. Jones, (J. Chem. Ed., 74, 1306, (1997)) and P. A. Sykes et al., (J. Chem. Ed., 76, 1283, (1999)). The extent of denaturation is measured through both fluorescence and UV-Vis spectroscopy. The spectrums are then analyzed to determine the equilibrium constant for unfolding at each denaturant concentration and the stability of the protein under non-denaturing conditions.

COMMUNICATION

ESPERANZA Y SU EXITO (HOPE AND YOUR SUCCESS)

Julian Berrian, M.F.A., Alta Carroll, Ph.D.

Esperanza y Su Éxito (Hope and Your Success) is a non-profit, Spanish language TV program produced and hosted by local educator Esperanza Donovan-Pendzic in collaboration with Worcester State University’s Center for Community Media. Each thirty minute episode features segments pertaining to health awareness, finances, politics, cultural arts, food and education. Since 2007, Professors Alta Carroll and Julian Berrian have been working in tandem with Esperanza Donovan-Pendzic to co-produce *Esperanza y Su Exito* and mentor student interns who serve as production personnel and marketing/public relations representatives for the program. *Esperanza y Su Éxito* can be viewed on WCCA TV 13 in Worcester, Mass. Our performance/presentation includes a video montage featuring images, music and sound bites from seasons one through four of *Esperanza y Su Éxito*. Alta Carroll, Julian Berrian, Esperanza Donovan-Pendzic and several students will be present to entertain questions.

EVENT PUBLICITY POSTER DESIGN

Select Students from CM 244: Graphic Design

Faculty Adviser: Suzanne Gainer, M.F.A.

Students in this intro level Graphic Design course were given the task of designing the poster for the very event that you are viewing: “The 5th Annual Celebration of Scholarship and Creativity.” After a minimum of two revisions, the top posters from each section of Graphic Design were voted on by the students. These were then submitted to members of the Administration who, with Professor Gainer, selected the top design as the official poster for the event. With this hands-on project students learned how to use the grid, manage color, work with image & text and apply principles of composition. The winning poster can be seen throughout campus with the runners-up on display in the Blue Lounge.

COMMUNICATION SCIENCES & DISORDERS

STAY CONNECTED TO LIFE: A GUIDE TO LIVING WITH A HEARING LOSS

Erica Cordio

Faculty Adviser: Susanna Meyer, Ph.D.

The presentation provides a guide for individuals with a hearing loss on how to stay connected to life and to the important people in their lives. Adults may develop a hearing loss due to various factors such as ageing, exposure to loud noise, drugs and serious infections. Signs of a hearing loss are for instance that speakers sound as though they are mumbling, difficulty hearing on the telephone or listening to the TV. Adults with hearing loss have difficulties in all communication situations. They start to avoid conversations because it is stressful and embarrassing when they are unable to participate effectively. They may feel left out and isolated from others. To hear better, adults with hearing loss should obtain hearing aids and become knowledgeable about the hearing assistive technology. Use of communication strategies facilitates communication and they can learn to be more assertive, anticipate situations, and use specific requests.

FIREFIGHTERS' HEARING

Erin Flinn

Faculty Adviser: Susanna Meyer, Ph.D.

Firefighters' work environment routinely exposes them to loud noises and especially loud sirens. Hearing deficits impact their job performance and as well as their safety. The goal of this investigation was to determine the presence of hearing loss in a population of firefighters. The relationship between the degree of loss and years in employment, the frequency of hearing protection use, and hearing loss were determined. Finally, the perceived hearing disability and the relationship with the hearing screening results were investigated. The study showed a high incidence of asymmetrical sensorineural hearing loss in a group of firefighters. This group of workers needs regular hearing screenings and hearing conservation measures to enable them to work effectively.

INTERNET RESOURCES FOR INDIVIDUALS WITH HEARING LOSS

Natalia Malek, Sarah Hews

Faculty Adviser: Susanna Meyer, Ph.D.

The Internet is an important tool for individuals with hearing loss. There is a wealth of information and support on the internet regarding tools to facilitate communication. The presentation will focus on three populations: parents of children with hearing loss, children/adolescents with hearing loss, and adults with hearing loss. Some of the resources we will present include: Skype, FaceTime, Netflix, BrainPOP, Access Together, and Deaf YouTube. The Internet is a valuable tool for individuals with hearing loss to enhance their learning experience, maintain effective communication, and keep up with changes in technology.

COMPUTER SCIENCE

MULTI-PREFERENCE DOCUMENT-DATABASE USER-DRIVEN DUAL-SEARCH (DATABASE & DOCUMENT) SOLUTION

Matthew Dellomo

Faculty Adviser: Hemant Pendharkar, Ph.D.

Traditional search utilities leave the user without their desired results in real world usage. The end-user will run multiple random unsuccessful searches with no idea what is wrong or how to (re)-submit their parameters for relevant information. In a real world application, computer servers are slowed down by a massive number of search requests, eventually increasing the time needed to find the information. To address this issue is to solve a search request just as an end user would complete a project of different type, by bringing the related files from a program to another, to bring related files into similar programs that offer different resources, and bring the related files into different features of the same program until the project is finished. We propose a solution that has entirely been written in BASH, C, PERL, PHP, SQL, JAVA-script, JQuery, and HTML for processing such searches.

EXPANDING EDUCATIONAL PATHWAYS IN COMPUTER SCIENCE – PEER MENTORING AT WSU **

James Forkey, Trevor Hodde, Dillon Murphy

Faculty Advisers: Aparna Mahadev, Ph.D., Karl Wurst, Ph.D.

James Forkey, Trevor Hodde and Dillon Murphy are peer-mentors for the gateway courses (CS 101, CS 140) in the Computer Science major. Peer mentoring is a method for upper classmen to work with freshmen students to provide experiences essential for learning: the freedom to discuss and debate course concepts in a non-threatening environment, the connection to mentors and the power of working in a team. This initiative to increase retention and student success in the Computer Science major is part of an NSF grant, Commonwealth Alliance for Information Technology Education (CAITE). University of Massachusetts, Amherst, is the principal investigator of the grant. Dr. Aparna Mahadev and Dr. Karl Wurst are campus investigators for this grant. Through this poster presentation, the mentors share their experiences: how the mentoring experience helped them and the impact of peer mentoring on WSU students and on various higher education campuses across Massachusetts.

INFLUENCES ON COLLEGE GRADUATION RATES

Jonathan Hasenzahl

Faculty Adviser: Elena Braynova, Ph.D.

In this project we investigate what may affect college graduation rates. We analyze graduation data of 1,302 U.S. colleges and universities listed in the 1995 *U.S. News & World Report's* "Guide to America's Best Colleges." The data was collected during the 1993-1994 school year and has 35 attributes for each school. We discuss encountered problems and propose solutions to them. We analyze the data set focusing on two primary goals. First, we try to verify if an accurate model could be made to predict the class attribute, graduation rate, using the other 7 attributes. Second, we measure the effect of these chosen attributes in making a prediction. The data set was studied using four classification rule algorithms (DecisionTable, JRip, Ridor, and PART).

CRIMINAL JUSTICE

ISSUES IN POLICE RECRUITMENT AND RETENTION

Heather Austin, Olivia Cross, Nate Cathline, Kathleen Smith, Spenser Raphaelson, Rich Gill

Faculty Adviser: Stephen A. Morreale, D.P.A.

This research focused on the issues of recruitment and retention in contemporary police agencies. The research explores the process of recruiting and retention of the best applicants for law enforcement agencies, through gathering information and by interviewing professionals.

Elements of recruiting and screening including aptitude tests, psychological, physical fitness tests, oral interviews, polygraphs, and assessment centers were reviewed. The research identified methods used by other police departments and alternative ways to attract well-rounded, long-term candidates from a representative population of the United States. Improving recruitment and candidate screening can result in higher retention.

ALCOHOL CONSUMPTION AND FEMALE DELINQUENT BEHAVIOR

Jake Bliss, Melissa Alvino, Luis Diaz, Melissa Centino

Faculty Adviser: Hye-Sun Kim, Ph. D.

The qualitative research design of this paper focuses on females as offenders. An interview was conducted with a female offender who had been incarcerated for six months after being convicted of her third OUI. The interview relates directly to our research question of "How has alcohol consumption affected female delinquent behavior?" The analysis and findings are significant in analyzing why females offend as well as the troubles that alcohol abuse can cause. Our paper intends to investigate how females are treated in prison as well as programs and support that assist in recovery. This research paper will examine the correlation between the involvement of women in criminal behavior and the negative effects that alcohol abuse can cause.

GENDER INEQUALITY IN SOCIETY**Christopher Bomengen, Jarret Charpentier, Jessica Dias, Kendra Valente***Faculty Adviser: Hye-Sun Kim, Ph. D.*

This research project explores the inequalities between genders within the criminal justice field. It examines the different ways women are treated differently from the men around them. Statistics show that there is gender inequality within our society, so we know it does exist. The problem lies with the denial of gender inequality and how people are blindsided with this issue. Criminal justice, being a fast growing field, is subject to discretion, manipulation, and corruption. This can be between the workers and daily offenders that pass through the system or within the criminal departments themselves. This is why in order to get insight on the lives of females within the criminal justice field a first-hand interaction is needed. For this factor we interview female chief of police Rosemary Naughton, to try and get answers to some of the questions we have about the female inequality.

DRUGS LEAD TO PROSTITUTION**Danna Cancel***Faculty Adviser: Hye-Sun Kim, Ph. D.*

This was an argument that is made through the topic of women and crime every day. It is directly taking a case scenario from a real woman who has gone through war on drugs since a young age. Throughout this presentation, the impact prostitution can have on a woman and for her family is emphasized because it makes the argument on war on drugs between women and crime. It is an interview between a mother, a drug addict but also a criminal in society. The interview had very personal questions and the person who was interviewed is anonymous for this reason. They did not want to be exposed but because they are not exposed they were completely honest which gives you a better idea on the impact drugs and prostitution have on a woman. Statistics will be shown in the presentation to emphasize the impact it currently has in the whole world.

ETHICS IN POLICING**James Garcia, Jenn Amyot, Shannon Mahew, Mike Caffrey, Nick DiBlassi, Riley Sullivan, Matt Seymour, Dan Pustis***Faculty Adviser: Stephen A. Morreale, D.P.A.*

This research explores issues in ethics within police agencies. Aspects explored ranged from accountability, discretion, character, cultures and sub-cultures. For comparison, interviews were conducted with personnel from the law enforcement, business and medical fields. Interviews examined ethical dilemmas and efforts to improve ethical standards in law enforcement, business and medical fields. Consideration was given to training regimens, and the adoption and Early Warning Systems.

WOMEN AND DRINKING**Alyssa Hast, Jackie Feeney, Nicholas Finizio, Jamie Goodman***Faculty Adviser: Hye-Sun Kim, Ph. D.*

The issues in today's society concerning women, crime and criminality are a bountiful target for much research. For our research project we have decided to research the connection between alcohol and the criminality of women/girls. We have interviewed several local women who have been arrested for alcohol offenses. By means of an interviewing process, asking various questions concerning the arrest, how it was handled, social status, family structure, and their current positions now, we hope to find a pattern of evidence that may show that an arrest connected to alcohol, more crime may continue. By coding the evidence, meaning finding similarities in the responses, we hope to see the connection between alcohol and crime. Alcohol use may facilitate more criminal activity. Because alcohol has the pharmacological effect of decreasing inhibitions and disrupting decision-making processes, we hypothesize that alcohol use should positively predict criminal activity, before and after arrest.

VICTIMIZATION OF GIRLS IN FOSTER CARE**Jaime Lepizzera, James Hickson, Courtney Gubber, Alisha Laconte***Faculty Adviser: Hye-Sun Kim, Ph. D.*

Females as victims have played a role in our current perception of a female's place in our social ladder. Women have always been looked down on for their female characteristics. Due to these stereotypes women and young girls are lashing out. This research paper highlights an interview conducted with Jane Doe concerning her life in foster care. Her interview helps us understand the struggles of adolescents in foster care and how it shapes their lives. Many people do not realize how difficult young girls have it in the foster care system. They are often treated with cruelty because people would rather stereotype than understand how to relate to them. With the information gathered from the interview, hopefully others can gain a better understanding of how to treat women not only in the foster care system but in the criminal justice system as well.

THE EMOTIONAL COURSE OF SEXUAL VICTIMIZATION

Lauren McCarthy, Katie Meola, Laura Nussberger

Faculty Adviser: Hye-Sun Kim, Ph. D.

This article reviews how there is more to sexual victimization than just the act itself. There are many other variables that are affected both during and after the abuse, specifically emotional. Authors conducted research based on a case study. One female who had been victimized as a child provided her experiences. Her victimization was compared and contrasted with several issues such as victim blaming, sexual abuse, child sexual victimization, and sexual harassment. Researchers highlight how victim blaming and the sexual abuse negatively affect the victim, and also how the victimization can lead to emotional problems later in life. The research suggests that sexual abuse within the immediate family needs to be acknowledged as a serious problem and that the community should focus less on what the causes of the abuse were and more on helping the victim and punishing the offender.

ACADEMICS AND PRACADEMICS IN CRIMINAL JUSTICE EDUCATION

Stephen A. Morreale, D.P.A.

In *The Human Side of Enterprise*, McGregor (1960) said “theory and practice are inseparable.” A debate has occurred over the benefit of having faculty with traditional academic credentials versus hiring non-traditional scholars, termed “pracademic” with a blend of doctoral education and practical experience. It may be that a blend of both will enhance student learning and engagement. There has also been discussion over the appropriateness of a J.D. as opposed to a Ph.D. in Criminal Justice Departments. This can cause divisiveness in the discipline. This survey research helps to better understand the perceptions, perspectives and point of view of faculty in the U.S. It is hoped that the introduction of different perspectives will cause an open discussion in the academy to better understand and find common ground.

METHODS OF PLANNING IN POLICE AGENCIES

Rebecca Mullen, Adriana Robles, Sebastian Bilentschuk, Anthony, D’Amato, David Son, Andrew Garcia, Ashley Latini

Faculty Adviser: Stephen A. Morreale, D.P.A.

Few agencies put forth the effort and resources to create an effective plan for the future. Law enforcement agencies can use similar methods to plan and budget. This project looks to compare and explain the success and failures of planning in the medical field and policing in both Arizona and Boston. Planning is a vital aspect that is often overlooked as disciplines try and deal with immediate problems rather than being prepared for the future. The research presents how planning begins and who is responsible within different agencies. Failure to properly execute a plan can be detrimental to an organization. It is important to measure, evaluate and review. Different fields hold practices and methods that would be beneficial if adopted by law enforcement agencies.

ANALYSIS OF PARENTING EFFECTS ON FEMALE DELINQUENCY

Katie O’Donoghue, Dan Osgood, Tim McElroy, Mike O’Brien

Faculty Adviser: Hye-Sun Kim, Ph. D.

Does parenting play a role in female tendencies in delinquency? We hypothesized that if a female is brought up around a negative parental authority, then she is more likely to commit delinquent acts. We have called upon documents, professional journals, articles and an experienced interviewee to come to our conclusion and support our hypothesis.

EFFECTS OF FEMALE CRIME ON THE FAMILY

Kateyln Pawlina, Catherine Santora, Ashley Sikes Christina Riggieri, Arshdeep Singh

Faculty Adviser: Hye-Sun Kim, Ph. D.

With the little research in female criminology, we explore the experiences of a female who spent most of her adolescent and adult life in the criminal justice system. Most research on crime is explored by through the male perspective and because the majority of young and adult offenders are males the female experience is neglected. While men are socialized to be dominant and violent figures in our society, the female pathways theory suggests that women who have been physically or emotionally abused have a greater risk of committing a status offenses and being adult criminals. There are other variables that will be explored when studying female crime, such as parental control, socialization from peers, substance abuse issues and mental illness.

EFFECTS OF ABUSE ON YOUNG FEMALE OFFENDERS

Jackson Powell, Kirsten Puzo, David St. Hilaire, Ann Triggs*Faculty Adviser: Hye-Sun Kim, Ph. D.*

Although certain crimes are usually separated by gender, with males committing more violent crimes and females committing less serious offenses, the underlying factors that lead individuals to commit these crimes are usually the same, and it usually starts from negative experiences they have encountered during the early stages of their life. Unfortunately, the young victims usually end up becoming the older offenders, not because they are an unpleasant person, but because of deeper psychological issues which often are very hard to overcome. The woman we interviewed is a prime example of someone who was involved with the criminal justice system due to a dysfunctional childhood involving the different types of abuse. In this paper, we are going to examine and analyze what led Ivette to go from victim to offender, the obstacles she overcame, and how she got her life back on track, along with studies to support our findings.

COMMUNICATION IN LAW ENFORCEMENT

Tyler Staback, Michael Black, Noel Ortiz, Derek Derderian, David Liberty*Faculty Adviser: Stephen A. Morreale, D.P.A.*

This research is intended to shed light on the importance and issues related to communication in policing. Police departments face many difficulties communicating both internally and externally. As society and technology evolve over time, law enforcement must adapt. Recognizing the need for community input it is essential to communicate using evolving technology as a productive tool. As expectations of police continue to increase, it is important for agencies to improve communications. The research relied on interviews and literature reviews to identify the contemporary issues of communication in policing.

DOMESTIC VIOLENCE

Shane Trudell, Ashley Wise, Brittany Stewart, Erica Torres*Faculty Adviser: Hye-Sun Kim, Ph. D.*

What is domestic violence and how does it occur? Throughout this paper we will discuss the problems with domestic violence, the facts about domestic violence and statistics on domestic violence. We will also discuss the theories of domestic violence and the established studies. We also interviewed a victim of domestic violence who would like to stay anonymous. Any abusive, violence, coercive, forceful or threatening act or word inflicted by one member of a family or household on another can constitute domestic violence. Domestic violence can also be called intimate partner violence. There are certain characteristics that you'll be able to tell if your loved one is a victim of domestic violence. We will also discuss the solutions to domestic violence; hotlines, safe house and other resources. This is group project for a Women and Crime class 343-01.

EDUCATION

ARE SCHOOLS IN MASSACHUSETTS MAKING THE GRADE? A COMPARATIVE LOOK AT CHARTER AND PUBLIC SCHOOLS

Jenna Seymour*Faculty Adviser: Stephen Healy, Ph.D.*

Education reform has been a key concern for politicians, educators, economists, and parents alike. This concern has grown as American students are outperformed by their counterparts abroad (National Center for Education Statistics, 2007). Prominent charter schools such as the KIPP Academy and Geoffrey Canada's Harlem Children's Zone have drawn national attention as a solution to the nation's test score woes. While some praise this new type of education, there are others who are skeptical towards the charter schools' success rates claiming that only a small number of charter schools actually have students excelling (Goldstein, 2010). Using Hoxby's (2004) national comparison of public and charter schools as a guide, I compare MCAS results of charter schools and their matched public school in order to determine if the belief in charter schools is misplaced.

ENGLISH

WORCESTER STATE APP

Matthew Tarpey

Faculty Adviser: Matthew Ortoleva, Ph.D.

My project is a small application for the android mobile operating system that gives users the ability to find general information on the school, as well perform other functions. It is the nature of most apps to grow and evolve over time, and this project is no different. With user feedback and school support what has started off as a largely self contained application - most of the information resides on the phone itself - has the potential to grow and utilize more robust, online functionality. Thus far the application consists of the following “activities”: A campus map, a school directory with call functionality, links to both the school’s main and athletic website, a streaming radio player connected to the school’s radio station, a list of tutoring services offered at WSU, and an updateable cafeteria menu. Future plans consist of incorporating rss feeds to display relevant school and department information.

MATHEMATICS

INTRODUCTION TO CONTINUED FRACTIONS

Eric Ahearn

Faculty Adviser: Maria Fung, Ph.D.

We will define continued fractions, briefly discuss their place in the history of mathematics, and focus on applications. We will start with the ever important Euclidean algorithm. Then we will show the continued fraction expansion for Pi and e. We will connect continued fractions to the Golden Ratio, which appears in art.

RATE OF MEMORIZATION—A MATHEMATICAL MODEL

Stephanie Akman, Martin Boros

Faculty Adviser: Maria Fung, Ph.D.

We will describe a mathematical model for the rate of memorization of lists of words. This model is based on a first order differential equation. In addition to the poster, we will interactively collect data from observers and demonstrate how the model changes.

THREE-DIMENSIONAL MATHEMATICAL ARTWORK IN SAGE

Stephanie Akman, Benjamin Erban, Shauna Gale, Jason Green, Emmalee Small

Faculty Adviser: Susan Schmoyer, Ph.D.

We present a gallery of virtual three-dimensional drawings created using Sage, a free and open-source mathematics software system. Interactive Sage programs that illustrate concepts and applications in calculus will also be on display.

GROWTH OF A POPULATION OF MOLD

Benjamin Erban

Faculty Adviser: Maria Fung, Ph.D.

In differential equations we study rates of change. In one of our labs we had to observe a piece of bread as colonies of mold grew on it. My lab report shows the amount of mold on the bread at 8 different sample points and graphs these against time. From the graph you can clearly see that the rate of mold growth is proportionate to the amount of mold already present on the bread.

NURSING
COMPULSIVE HOARDING AND PUBLIC HEALTH ***Gina Fleury***Faculty Adviser: Stephanie Chalupka, Ed.D.*

The recent onslaught of reality television shows such as TLC's Hoarders: Buried Alive and A&E's Hoarders, has raised the public's awareness of the phenomenon of compulsive hoarding. However, hoarding is neither a new or simple disorder. Associated with substantial health risks, impairment in function, and economic burdens, compulsive hoarding represents serious and sometimes life-threatening behaviors. This serious public health hazard affects approximately 2-5% of the U.S. population, with significant impacts on individuals, families, and communities. Community health nurses have the opportunity to detect, screen, and educate their clients, families, community members, and other health care workers about available treatment and resources. This poster presentation was developed as an educational tool to be utilized by local Boards of Health to raise public's awareness of this complex disorder. It was recently displayed at the Hopkinton Health Fair this March where it generated much interest.

JUST DON'T GET STUCK: SHARPS COLLECTION & DISPOSAL ***Gina Fleury, Tina Paul***Faculty Adviser: Stephanie Chalupka, Ed.D.*

This purpose of this project was to research and develop options for the municipalities of Hopkinton, Holliston, Ashland and Medway to enable them to comply with new mandates under Massachusetts General Law 94C, Section 27A. This new legislation is expected to be implemented in spring 2012. It will require public health departments to design, establish and implement programs for the safe disposal and collection of hypodermic syringes and lancets used outside of health care settings in order to protect members of the public from injury and illness resulting from exposure to improperly disposed of syringes and sharps.

TATTOS AND YOU: STOP AND THINK BEFORE YOU INK ***Gina Fleury, Tina Paul***Faculty Adviser: Stephanie Chalupka, Ed.D.*

Though a very common practice, getting a tattoo poses some risks to one's health and safety. For example, infections, allergic reactions, photosensitivity and scarring are potential complications. Taking precautions can help individuals avoid negative side-effects and help ensure they get the best results. Consumers should be well informed in order to make the best possible decision. This poster presentation was designed to be utilized as a public educational tool to help individuals make an informed decision about tattoos. It emphasizes potential risks and complications, health conditions that may increase these risks and complications, the importance of utilizing only licensed tattoo artists, and the importance of appropriate after-care. This board was recently displayed at a health fair in Hopkinton where it received much interest. Community members, especially parents of high school students, appreciated the information and requested that it be displayed in their town's high school lobby.

EXPLORING THE HEALTHCARE EXPERIENCE OF LESBIAN, GAY AND BISEXUAL COLLEGE STUDENTS USING COMMUNITY-BASED PARTICIPATORY RESEARCH**Patrick Hare, Meghan Johnson***Faculty Adviser: Caitlin M. Stover, Ph.D.*

The purpose of this study was to describe the healthcare experiences of lesbian, gay, and bisexual (LGB) college students (ages 18-24) in the local college community using community-based participatory research (CBPR). Background: Little is known about the healthcare experiences of LGB young adults and even less is known about LGB college students. Helping LGB college students effectively access appropriate, sensitive healthcare has the potential to reduce negative long-term health consequences. Methods: Three online synchronous focus groups and one online individual interview were conducted with 19 LGB college students in 2011. Results: One overarching theme, one main theme and four sub themes emerged. One community directed action emerged from the analysis resulting in the development of a SNS on Facebook: College Alliance Towards Community Health. The mission of CATCH is to provide LGB college students with a comfortable forum to learn about various healthcare concerns of LGB.

EFFICACY OF A NUTRICEUTICAL FORMULATION ON COGNITIVE PERFORMANCE AND FUNCTION IN MILD COGNITIVE IMPAIRMENT AND ALZHEIMER'S DISEASE

Annmarie Samar, Ph.D.

BACKGROUND: A nutraceutical formulation ("NF"; folic acid, vitamin E, B12, S-adenosyl methionine, N--acetyl cysteine, acetyl-L-carnitine) has been demonstrated to boost or maintain cognitive performance in AD.

METHODS: Individuals with AD and/or MCI received NF or placebo, and completed cognitive tests. Caregivers completed mood/behavior and activities of daily living reports.

RESULTS: Individuals with AD receiving NF improved in Clox 1 within 3 months ($p < 0.01$) and maintained improvement at 6 months; similar improvement was observed in Clox 2. AEMSS improved in NF group (0.9). Placebo participants declined 30% in ADLs at 6 months while receiving NF declined only 12%.

CONCLUSION: NF can maintain or improve cognitive performance. The extent of efficacy correlates with the degree of compromise at initiation of treatment.

OCCUPATIONAL THERAPY

FACTORS THAT AFFECT THE LEVEL OF SATISFACTION WITH PARTICIPATION IN OCCUPATIONS POSTRETIREMENT *

Jennifer Andrews

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The study's purpose was to determine retirees' levels of satisfaction with participation in occupations postretirement and to identify factors that contributed to satisfaction. METHOD. Through use of snowball sampling, there were a total of 18 retirees from Massachusetts, who participated in this study. A student-designed survey was used to collect data that measured the levels of satisfaction with participation in leisure and social occupations postretirement. The survey also asked which factors affected satisfaction. RESULTS. Findings showed that the majority of retirees felt well prepared to retire and enjoyed life more since retiring. There were varying levels of agreement towards levels of satisfaction. About half of the retirees reported an increase in both leisure and social participation post-retirement. Many focused on planning financially, while several neglected to plan for activities and organizations. CONCLUSION. Most retirees felt well prepared to retire and were satisfied with participation in occupations.

SELF-MANAGEMENT STRATEGIES FOR CHRONIC PAIN USED BY OLDER ADULTS WITH OSTEOARTHRITIS *

Kristin Brezenski

Faculty Adviser: Margaret Hart, Ph.D.

Ten older adults were randomly surveyed from Christopher Heights Assisted Living Center in Webster, Mass., about the strategies they use to effectively manage their lower extremity arthritis. The objective was to examine both the types and frequencies of self-management strategy use in older adults with varying levels of disease severity, along with strategy use differences between genders. Results of the study will be presented.

COMFORT LEVELS OF ALLIED HEALTH STUDENTS WITH FUTURE CLIENTS' SEXUAL ISSUES *

Caroline Collins

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. To explore the comfort levels of allied health students when dealing with future clients' sexual issues. METHOD. 51 OT students and 31 nursing students at WSU participated in the study. The participants completed the Comfort Scale Questionnaire. An overall comfort score was calculated, and each score was characterized as "Uncomfortable," "Neutral," or "Comfortable." RESULTS. Overall comfort scores of participants ranged from 34-107. The average score for nursing was 82.6; the average for OT was 71.16. There were no significant differences between the comfort levels of nursing and OT students. Participants reported being most uncomfortable with situation-based survey items rather than client-based. Being sexually active did not correlate with overall comfort levels of dealing with clients' sexual issues. CONCLUSION. While most participants reported being relatively comfortable with a variety of situations and populations, others may benefit from extensive hands-on training within the educational setting.

THE EFFECTS OF CAREGIVING ON THE RELATIONSHIP QUALITY BETWEEN ADULT CHILDREN AND AGING PARENTS *

Alyssa Davis

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The purpose of this study was to determine how the kinds of caregiving tasks, hours spent caregiving, and demographic characteristics altered the relationship between adult children and parents. METHOD. Sixty-two adults completed a survey about the care they provided to their parents. The data collected was analyzed to explore relationships between variables. RESULTS. The age of the parent and the presence of a urinary condition in the parent had an inverse relationship with good relationship quality between the adult child and aging parent. The presence of a digestive disorder had a direct association with good relationship quality. Lastly, adult children who helped their parents with shopping tended to have poorer relationship quality. No relationships were found between relationship quality and hours spent caregiving. CONCLUSION. This study provides evidence that certain demographic factors and caregiving tasks can have an association with relationship quality between adult children and aging parents.

SOCIAL RESPONSIBILITY AND LEVEL OF COMMUNITY SERVICE INVOLVEMENT IN COLLEGE STUDENTS *

David Michael

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. This study's purpose is to determine the amount of community service which OT students partake, and overall feelings of social responsibility when compared to a general population. METHOD. There were 94 participants: 51 OT students, and 43 students representing the undergraduate population. Participants were given a researcher-created survey inquiring community service hours performed, desired service level, and questions of social responsibility. Students were surveyed in classrooms and in the student center. RESULTS. The results of this study showed that OT students participated in more hours of community service than the general population, and were more likely to choose a service that involved direct interactions. Furthermore, OT students reported higher-level feelings of social responsibility. CONCLUSION. Community involvement builds classroom learning and enables developing practitioners to enhance academics. OT students and educators can utilize this study to further develop programs and foster development of professional skills in the preparation of entry-level practitioners.

OCCUPATIONAL THERAPISTS' PERCEPTIONS OF THE IMPACT OF SENSORY BASED TREATMENT ON THE OCCUPATIONS OF MENTAL HEALTH CLIENTS *

Lauren Neill

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The purpose of this study was to determine mental health occupational therapists' perceptions of sensory based treatment as a means to increase participation in occupations. METHOD. Ten mental health occupational therapists from Rhode Island and Massachusetts completed an electronic survey. RESULTS. Seven inpatient therapists and three outpatient therapists responded to the survey in its entirety. The main finding of the study was that the activities most impacted by sensory modalities were instrumental activities of daily living, leisure, and social interactions. CONCLUSION. Mental health occupational therapists perceived that sensory based treatment impacted their patients' occupations, especially in the areas of instrumental activities of daily living, leisure, and social interactions. Occupational therapists should be aware of the perceived effects of this treatment in different patient settings and how they can apply it to their own mental health patients or clients to increase occupational performance.

ADULTS' AWARENESS LEVELS OF ERGONOMICS IN THE WORKPLACE *

Bryan Paterson

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The purpose of this study was to evaluate and measure adults' current ergonomics awareness by analyzing their understanding of the term, how much they value it, the perceived health benefits of ergonomics, and the demographic characteristics that influence these findings. METHOD. The study was a descriptive, non-experimental study that examined adults' awareness levels in office work and manual labor. The independent variables were the employees' demographic characteristics including work setting, while the dependent variable was the level of ergonomic awareness. RESULTS. Participants in both work environments felt they were confident with their understanding of ergonomics, felt that they valued it in the workplace, and also felt that it contributed to their physical health, however did not use it at work. CONCLUSION. From the study's results, it can be concluded that ergonomic implementation is lacking in most work facilities despite its importance and significant benefits to individual health.

SCHOOL-BASED OCCUPATIONAL THERAPISTS' PERCEPTIONS OF BARRIERS TO THE USE OF ASSISTIVE TECHNOLOGY IN THE CLASSROOM *

Lauren Reppucci

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The purpose of the study was to examine school-based occupational therapists' perspectives of the barriers to the implementation of assistive technology in the classroom. **METHOD.** An online survey was created by the researcher in Survey Gizmo, an online survey creator. Snowball sampling was used to gather data electronically. Eleven school-based occupational therapists from the state of Massachusetts completed an online survey distributed by a contact at the Massachusetts Association of Occupational Therapy and a school-based occupational therapist known to the researcher. Therapists evaluated the degree to which they perceived various factors as barriers to assistive technology in the school setting. Also, therapists were asked to identify the professionals they worked with to see if this factor impacted the barriers identified by the therapists. **RESULTS.** No statistically significant information was concluded from this study. The professionals with whom the therapists work varied greatly and did not impact the barriers they identified. Therapists in the study identified most of the barriers found in previous research as barriers in this setting.

THE INFLUENCE OF LEISURE PARTICIPATION ON QUALITY OF LIFE FOR POST CAREGIVERS *

Dana Steigerwalt

Faculty Adviser: Margaret Hart, Ph.D.

OBJECTIVE. The purpose of this study was to examine the relationship of leisure participation to the quality of life of postcaregivers, and to determine if men or women reported greater quality of life in the postcaregiving stage. **METHOD.** Fourteen adults who identified themselves as postcaregivers participated in this study by completing the Leisure Participation Survey for Postcaregivers. Participants were asked to identify their level of leisure participation before, during, and after caregiving. They were also asked if their quality of life had improved since cessation of caregiving. **RESULTS.** Participants reported engaging in fewer leisure activities in the postcaregiving stage with women reporting fewer activities than men. Data supports the conclusion that postcaregivers who participated in a greater number, and frequency of leisure activities, experienced greater quality of life. **CONCLUSION.** Addressing the needs of postcaregivers in the area of leisure participation can improve postcaregivers' quality of life.

ADULT WOMEN'S PERCEPTIONS OF OBESITY AS A BARRIER TO OCCUPATION *

Marna Wright

Faculty Adviser: Margaret Hart, Ph.D.

This is my thesis project. It contains a student-designed survey that was given to 28 adult women volunteers at two local women gym franchises. The women were first asked demographic questions. They were then asked if they believed there were some occupations that they could not participate in due to physical and psychological symptoms related to obesity. Results revealed that this group of women believes that participation in social occupations are most impacted by body weight due to the fear of judgment from others.

PHILOSOPHY

MASS VIOLENCE AGAINST WOMEN: NEW RESEARCH ISSUES **

Rachel Brown, Victoria Celia, Alyssa Huckins, Lauren Hunter, Trevor Perry, Miranda Smith

Faculty Adviser: Henry Theriault, Ph.D.

In the past two decades, mass violence against women has emerged as an important area of international human rights, foreign policy, and academic concern. PH 251 is an exploration of various historical and contemporary cases of mass violence against women and the theoretical issues raised by them. This semester students are researching a range of issues, including the relationship of mass rape to genocide, the concept of "gendercide," the relationship between everyday rape and mass rape, the relationship of militarization to violence against women, and intervention against mass violence against women. This panel will feature presentations by six WSU undergraduates, each offering insight into a central theoretical concern raised by the prevalence of mass violence against women.

“GRANDMA’S TATTOOS”: DOCUMENTARY SCREENING AND PANEL DISCUSSION **

Maureen McShane, Amanda Hewitt

Faculty Adviser: Henry Theriault, Ph.D.

“Grandma’s Tattoos” is a recent documentary by Suzanne Khardalian about women and girls who, during the Armenian Genocide of 1915-23, were taken as sexual slaves by the perpetrators and other groups and often sold repeatedly for some years through a slave-trading network that emerged. The title refers to the fact that owners would tattoo their names on the chests of these women, who after some time often had multiple name tattoos. A showing of the film will be followed by a panel discussion featuring experts that include two undergraduate students from WSU currently researching mass violence against women in their PH 251 course. **The program includes a welcome by WSU President Barry Maloney and will take place in the Ghosh Auditorium (ST 102) at 7:45 p.m.**

PHYSICAL/ EARTH SCIENCES

NATURAL REFORESTATION: THE CHANGING LOOK OF MOUNT WACHUSETT

John Armstrong

Faculty Advisers: Stephen Healy, Ph.D., William Hansen, Ph.D.

Mount Wachusett possesses the largest old-growth forest in Massachusetts east of the Connecticut River. This old-growth forest survived the massive deforestation experienced by the rest of the mountain because of its location, on the steep slopes close to the summit. I sampled 6 sites on the mountain: 3 within the boundaries of the old-growth forest and 3 within naturally reforested sections. Samples areas are paired by similar elevation and location. The working hypothesis is that the dominant tree species should be the same in each pairing. Random 5 meter diameter plots within each survey area were selected and trees within each plot, minimum 5 cm diameter, were identified by species and counted. The results show that reforested sites are repopulated by different species than those old growth counterparts. This research identifies factors contributing to changes in tree species diversity: species successional dynamics, elevation, slope and changes in elevation.

FOREST AND LAND-USE CHANGE WITHIN WEST BOYLSTON AND NORTHBOROUGH

Karissa Booth, Nikole Vetter

Faculty Adviser: William Hansen, Ph.D.

This project focused on the land use change and forest change in West Boylston and Northborough due to environmental and historical influences. It was found that West Boylston and Northborough experienced various increases and decreases in forestation due to factors such as building of roads, houses, and businesses, as well as environmental issues such as agricultural abandonment, forest fires, and exotic pests. These findings are significant to our current forest conditions, which appear to be experiencing a decline after a century of increase.

GREENLAND GETTING GREENER: CLIMATE CHANGE AND LAND COVER IN NORTHERN LATITUDES

Hope Borden

Faculty Adviser: Stephen Healy, Ph.D.

Greenland has the largest permanent ice mass in the northern hemisphere. Ice sheets are sensitive to changes in climate. Changes in temperature, precipitation and snow melt rates can have drastic effects on the thickness and longevity of Greenland ice sheet. I use climate models A2, B1 the committed scenarios to assess likely changes in the Greenland ice sheet over the next century. The A2 scenario models a world of increasing CO2 emissions, a world of high precipitation and temperatures. The B1 scenario models a world of lower CO2 emissions, in which the world reverts to a pre-industrial atmosphere. The committed scenario models present atmospheric CO2 concentrations as constant. These different scenarios have widely divergent effects on feedback loops, such as the albedo effect, which can greatly increase melt rates. In turn the melt rate of the Greenland ice sheet has enormous consequence for the European and North American coastline.

WHERE DO YOU GET YOUR WATER?

Carly Brady, Abigail Ryzewski, Meghan O'Leary

Faculty Adviser: William Hansen, Ph.D.

The Holden Reservoir distributes 50 million gallons of water a day. Do you ever wonder where that water goes? This study took place in Holden and the surrounding areas. We looked at water demands, filtration, land usage, and population and how it affected the water being distributed to the local surrounding towns. It was found to be a concern that if the urbanized population continued, the reservoir may not be sufficient enough to meet the demands. Therefore water buffering, water harvesting, and water conservation were used to control the amount of water loss.

RESILIENCY BUILDING IN RESPONSE TO AN UNCERTAIN FUTURE: A TRANSITION TOWN AND HOMESTEADING APPROACH FOR BROOKFIELD, MASS.

Nathan Casucci

Faculty Adviser: Stephen Healy, Ph.D.

Global climate change and peak oil present unique challenges for an increasingly globalized world. Current mainstream responses to these issues are inadequate. Permaculture researcher Rob Hopkins has developed a strategy known as the Transition Town Movement which emphasizes community based localization and resiliency building as a method to reduce fossil fuel dependency and its attendant liabilities. Homesteading and individual self-sufficiency practices can complement a Transition Town initiative in rural communities. This study focuses on Brookfield, Massachusetts, and its current potential for adopting a resiliency building plan using data from the town's 2011 Master Plan. The results suggest that Brookfield is in an advantageous position for implementing such an initiative based on its physical landscape, patterns of development and the general direction in which the town plans to advance.

LANDFILL OVERFLOWS AND THEIR ENVIRONMENTAL IMPACTS: SAVING OUR ASHES IN SHREWSBURY, MASS.

Michael Corron

Faculty Adviser: Stephen Healy, Ph.D.

In March 2010 at the Wheelabrator Landfill facility in Shrewsbury, Massachusetts, heavy rain caused a slope failure, sending a large wave of water and ash over an access road and outside the landfill limits, into a wooded area and wetlands. The ash is suspected high concentrations of toxic heavy metals cadmium and lead. This study explores the impacts of a landfill overflow. Randomized Soil samples were taken at intervals from the overflow area and analyzed for heavy metal content using an Atomic Absorption instrument. The conclusion of this research provides an idea of the severity of this event, its environmental impact, and the importance of adequate containment of ash deposits.

HISTORICAL POPULATION CHANGE IN AUBURN, MASS.

Derek Courtney

Faculty Adviser: William Hansen, Ph.D.

The population change in Massachusetts towns is recorded by both the U.S. Census Bureau and town surveys. Auburn is located directly south of the city of Worcester, Mass. This project examined the population changes in Auburn and examines factors such as industrialization, post industrial decline, and growth of suburbs.

LAND USE CHANGE IN HOLLAND, MASSACHUSETTS

Frank DeLuca, Ashley Arseneau

Faculty Adviser: Professor William Hansen, Ph.D.

A study conducted on the land use change over time. The study will be conducted in the towns Holland and Orange Massachusetts. The time period will date back from 1970 to present day. Find the land use change over time of both towns and compare and contrast the data. Both towns have a small size populations of Orange being 7,839 (2010 census) and Holland 2,508 (2010 census). Both towns are in rural areas but the findings will show how the impact of the different environments, highway access, buildings, and population will have an impact on the land use change over time in both towns.

BLOWING IN THE WIND: PERSISTENT PLASTIC BAG POLLUTION AROUND SHOPPING CENTERS ****Jon Kendall***Faculty Advisers: William Hansen, Ph.D., Stephen Healy, Ph.D.*

The objective of this study was to establish the role supermarkets play in contributing to local pollution involving plastic bags in two distinct areas: the South Worcester Wal-Mart and a Winchester, Massachusetts-based Stop and Shop. The goal was to examine two different types of stores, a large-box store and a supermarket, to determine the volume of plastic bag pollution in the local environment. Field sampling techniques of the two sites were undertaken using Global Positioning Systems (GPS) and aerial maps. The green spaces, waterways, and parking lots were examined to determine the extent of the pollution through count of plastic bags. This study is aimed towards raising public awareness and understanding of the long-lasting effects plastics have on the environment. The study underscores the significance of bio-degradable based materials in mitigating the negative aesthetic and environmental impacts of plastic bags in the local landscape.

TREES GONE WILD: SUCCESSION DYNAMICS AND CONSTRAINTS IN SECONDARY GROWTH FORESTS IN NEW ENGLAND**Megan Long***Faculty Advisers: Allison Dunn, Ph.D., Stephen Healy, Ph.D.*

Competition and succession within forests are complex phenomenon. Interactions among species can be examined to understand the pattern of forest succession. This study looks at succession patterns in two forest stands, one harvested and one old growth, at Harvard Forest, Petersham, Massachusetts. In 2008, six plots in each area were selected at random to study forest succession and tree species interactions. Diameter at breast height (DBH) (1.4m), species genus, plot location, and year were all recorded for each of the trees within the plots that had a DBH over 5cm. This data has been recorded from 2008-2011. Data from each year is analyzed to determine the stems per hectare and basal area in order to ascertain the dominant species. The complex dynamics of competition and succession will illustrate what goes on in secondary growth forests.

SIMULATION OF PRESBYCUSIS AND EXPLORATION OF METHODS TO REGAIN FUNCTIONAL HEARING**Maryanna Owoc***Faculty Adviser: Frank Lamelas, Ph.D.*

Age-related presbycusis is characterized by high frequency hearing loss, typically above 2 kHz, and it can affect how an individual comprehends speech. Risk factors associated with presbycusis include exposure to loud sounds and genetics. The purpose of this project was to (i) develop a way to simulate what an individual with presbycusis may hear, and (ii) use audio filters to explore how to modify recordings so as to make them intelligible to a person with presbycusis. To simulate hearing loss, several low pass filters were applied to recorded speech and evaluated to determine which most effectively simulated presbycusis. Subsequently, several methods were employed to find a way to transform the initial recording so as to make it intelligible after a subsequent application of the “presbycusis filter.” Exploration of corrective transformations helps to find methods that can be employed to help those with presbycusis regain functional hearing.

THE COST OF FOREVER: CEMETERIES, THE ENVIRONMENTAL IMPACTS OF INTERMENT AND GREEN ALTERNATIVES**Kyla Palubinkas***Faculty Adviser: Stephen Healy, Ph.D.*

Public and private cemeteries are most often thought of as spaces of memorial for the deceased; however, they frequently provide other benefits such as open space preservation, recreation, and habitat conservation. Current burial practices and cemetery management strategies have negative environmental impacts—ranging from resource depletion to ground water contamination. It is critical that the development and use of sustainable burial and managerial techniques be implemented in cemeteries. In this project I am conducting ongoing research with people involved in cemetery management, mortuary services, and advocates for green burial practice in Massachusetts. I will also perform participant observation in cemeteries in Worcester and Middlesex County to assess the development potential for alternative, more sustainable approaches to interment in Massachusetts.

THE QUABBIN RESERVOIR AND ITS EXAMPLE OF THE NECESSARY DISRUPTION IN FORWARD PROGRESS

Stephen Stark, Jonathan Barrows, Austin Canty

Faculty Adviser: William Hansen, Ph.D.

The construction of major reservoirs has a considerable impact on its surrounding area. A geographic informational system was used to analyze the areas flooded as a result of the construction of the Quabbin Reservoir in Central Massachusetts. It was found that four towns; Dana, Enfield, Greenwich, and Prescott were completely submerged and their 2500 or so residence were forced to relocate. The four towns and the 2500 people were victims of necessary forward progress as populations in the 1920's surged and water demands could not be met.

PSYCHOLOGY

PERSONALITY AND COPING VARY BY GENDER IN PREDICTING DEPRESSION AND ANXIETY

Kathryn F. Fokas '10

Faculty Adviser: Champika K. Soysa, Ph.D.

Personality and coping predictors of depression and anxiety were examined in 98 undergraduates. For women, depression was predicted by neuroticism, self-blame, and denial, while anxiety was predicted by neuroticism and venting. In this study, it appeared that it was the coping factors that differentially predicted the two forms of distress in women. For men, neuroticism, conscientiousness (inversely), and extraversion (inversely) predicted depression, while extraversion (inversely), conscientiousness (inversely), venting and denial predicted anxiety. In men as well, it was the coping factors that primarily differentiated between the prediction of depression and anxiety, although neuroticism predicted depression but not anxiety. Further, personality factors alone predicted depression in men. In addition, the gendered prediction of distress might be clinically relevant. The results of this study could inform interventions that address college student distress. (Poster presented at the American Psychological Association annual conference, Washington, DC, August 2011.)

STRESS AND WELL-BEING: RELATIONSHIPS WITH SOCIAL CAPITAL, SELF-ESTEEM, AND TECHNOLOGY USE

Jennifer M. Gardner

Faculty Adviser: Champika K. Soysa, Ph.D.

Social capital, self-esteem, and technology use have each been studied in terms of their relationship with stress and well-being. Since researchers have not yet investigated the preceding variables together, we examined novel dimensions of these factors in their associations with stress and well-being. Participants included 176 undergraduates (males, n=42; females, n=134) who were assessed in a group setting using a self-report protocol. In general, social capital and self-esteem were inversely associated with stress and positively associated with well-being. The preceding social capital associations were gendered. On the other hand, technology use was positively associated with stress and inversely associated with well-being. These results inform the field regarding the correlates of stress and well-being among undergraduates. (Poster presented at the annual meeting of the Eastern Psychological Association, Pittsburgh, Penn., March 2012.)

CHECK YOU OUT! FACIAL SYMMETRY AND SELF ESTEEM AMONG COLLEGE WOMEN

Amber Goulart

Faculty Adviser: Seth Sorgan, Ph.D.

The current study looks at facial symmetry and self-esteem based on Festinger's (1954) social comparison theory. Previous research (Cash, Cash, & Butters, 1983; Baldwin & Wesley, 1996) has established that self-esteem is affected by comparison with peers. Other research has found that comparing one's own attractiveness to others' can significantly affect self-esteem (Cash, et al., 1983; Thorton & Moore 1993). This purpose of this project is to isolate facial symmetry as the dimension along which comparisons are made. We hypothesize that students who measure their own face will have lower self-esteem than students measuring the facial symmetry of others. However, those who measure the facial symmetry of an asymmetrical person will have higher self-esteem than those who are measuring the facial symmetry of a symmetrical person.

VIDEO GAMES AND PERSONALITY**Elizabeth Howard***Faculty Adviser: Seth Sorgan, Ph.D.*

This study investigates the relationship between personality characteristics and video game preferences and behaviors. Previous research (Chory & Goodboy, 2011; Eastin, 2006) has focused on the correlation between video game habits and violence. This study extends previous research by addressing other personality aspects and their correlation with video game habits.

This study includes 49 undergraduate participants who completed 4 questionnaires designed to assess Video Game Habits, Adventurousness, the Big Five and Tolerance of Ambiguity. Our data analysis using hierarchical regression will be aimed at testing the degree to which the different personality traits predict video game habits. We hypothesize that a person with a high score in openness to experience, adventurousness and tolerance of ambiguity will prefer action/adventure style games. A high openness to experience score, low adventurousness and tolerance of ambiguity will prefer social games. A high tolerance of ambiguity score will prefer puzzle games.

FAMILY ENVIRONMENT AND IMPULSIVITY IN ADOLESCENCE**Alicia Leland***Faculty Adviser: Holly Ketterer, Ph.D.*

The purpose of this study was to replicate quantitative research investigating the relationship between impulsivity and family environment in an adolescent sample, and also to make an original contribution to the extant literature by creating a qualitative interview to measure impulsivity. The primary hypothesis stated there would be a negative correlation between impulsivity and family functioning. Additionally, it was expected that the following variables would be related to increased impulsivity: living in a single-parent home, being first born, being strongly influenced by peers, increased reactivity, and increased social desirability. Self-report questionnaire data was collected from 469 college students, 10 of whom also participated in an original impulsivity interview. Results indicated a negative correlation between both family functioning and impulsivity $r = -.16$, and social desirability and impulsivity $r = -.44$, and a positive correlation between peer vs. parent influence and impulsivity $r = .32$. Exploratory results are also presented.

BUILDING CONNECTIONS: ASSIGNMENTS AND ASSESSMENT IN INTRODUCTION TO PSYCHOLOGY**Champika K. Soysa, Ph.D.**

This symposium centered on building connections between the everyday psychological experiences of students and how these experiences are linked to course assignments and curriculum assessment. Each presenter discussed an assignment that maps on to student learning outcomes for Introduction to Psychology, which, in turn reflect the APA Goals for undergraduate psychology. Further, the presentations addressed the integration of technology, cultural issues, and pedagogical innovation. In 'Prisoners and guards: Stanford Prison Experiment and reality at the Abu Ghraib Prison,' Dr. Soysa described an assignment that links Zimbardo's Stanford Prison Experiment to related events at the Abu Ghraib Prison in Iraq. Students applied psychological knowledge to an international event publicized in the media. In this writing assignment, they discussed both similarities and differences in psychological meaning based on cultural context as well as research versus professional contexts. (Symposium presented at the Society for the Teaching of Psychology conference, October 2011.)

HANDBOOK OF ETHNIC CONFLICT: INTERNATIONAL PERSPECTIVES**Champika K. Soysa, Ph.D.**

The ethnic war in Sri Lanka raged for more than 25 years, from 1983-2009. The history of the conflict is described, and the key participants are identified. While the causes of the conflict are manifold, several contributing factors are examined. The consequences of the protracted conflict are explored as well. The tsunami of 2004 had a tremendous impact on national politics, and the psychological cost of this natural disaster, as we describe, compounded the effects of war. A special focus of this chapter is the role of women's movements in searching for resolutions to this conflict. Suggestions for policy makers are based on the history of peace negotiations and the inclusion of all major ethnic groups, Sinhala, Tamil, and Muslim, in this process.

GENDER AND STRESS: PREDICTION IS GENDERED BUT CONTEXTUAL VARIATION IS SIMILAR

Champika K. Soysa, Ph.D., Kathryn F. Fokas '10

Personality and coping predictors of stress were examined in 98 undergraduates. Both personality and coping predicted stress in women (neuroticism and venting), while only personality predicted stress in men (neuroticism, agreeableness and openness). Further, reports of stress symptom severity and the number of symptoms endorsed were higher when symptom items were presented alone, as opposed to when they were embedded among symptoms of anxiety and depression, for both men and women. These findings suggest that reports of presenting problems could vary based on whether intake questions are embedded within a battery of differential diagnosis questions or not. The results of this study could inform both symptom assessment and counseling interventions for college student stress. (Poster presented at the American Psychological Association annual conference, Washington, DC, August 2011.)

COMMUNICATION AND ENTERTAINMENT TECHNOLOGY USE IN RELATION TO SELF-ESTEEM AND POPULARITY

Champika K. Soysa, Ph.D., Jennifer M. Gardner, Victoria L. Reiszner

We examined communication and entertainment technologies in relation to self-esteem and popularity. Participants were 176 undergraduates (males, n=42; females, n=134) who were assessed in a group setting using a self-report protocol. Communication and entertainment technologies were inversely associated with self-esteem among both men and women. In men and women respectively, instant messaging (inversely) and MP3-player listening (inversely) predicted self-esteem. Among men, communication technologies were unrelated to popularity, while entertainment technologies were inversely associated with popularity. Among women, however, communication and entertainment technologies were both positively associated with popularity. MP3-player listening among men (inversely), and texting among women (positively), predicted popularity. These results inform us about the gender similarities in the relationships between technology use and self-esteem, and the gendered relationships between technology use and popularity. (Poster presented at the annual meeting of the Eastern Psychological Association, Pittsburgh, Penn., March 2012.)

IMPULSIVITY AND COPING SKILLS IN LATE ADOLESCENCE

Emily Tripp

Faculty Adviser: Holly Ketterer, Ph.D.

Previous research has found a negative relationship between coping skills and impulsivity in adolescents. The purpose of this study was to replicate previous work by examining the relationship between coping skills and impulsivity, and also to make an original contribution to the literature by creating a new coping skills measure in the form of a structured interview. The primary hypothesis stated that coping skills would be negatively related to impulsivity. It was also expected that the following variables would be related to increased impulsivity: reactivity, peer influence, and social desirability. Participants included 469 freshman college students. A questionnaire packet was completed by all 469 participants and 10 of these 469 participants completed the structured coping interview. There was a significant negative relationship between impulsivity and coping skills, $r = -.242$, $p < .01$ and between impulsivity and social desirability, $r = -.441$, $p < .01$. Additional results will also be presented.

LIFE SATISFACTION AND GAMING HABITS

Marc J. Wagoner, Ph.D.

The purpose of the present survey is to begin the study the frequency of use and impact on students' lives that digital games have. The broad proposition is that a person's sense of identity is influenced by digital gaming as the level of immersion in those games increases. Prior to studies on immersion and identity, it would be prudent to get a flavor of the gaming habits of students here at Worcester State University.

MINDFULNESS AND SELF-COMPASSION AS PREDICTORS OF DEPRESSION, ANXIETY, AND STRESS

Carolyn J. Wilcomb*Faculty Adviser: Champika K. Soysa, Ph.D.*

We investigated predictors of psychological distress in a sample of 150 undergraduates. When examined individually, facets of mindfulness, self-efficacy, and self-compassion predicted depression, anxiety, and stress in the expected directions. When examined together, however, depression was inversely predicted by non-judging, describing, and awareness (mindfulness), and self-kindness (positive self-compassion), and positively predicted by isolation (negative self-compassion). Anxiety was inversely predicted by non-judging, non-reactivity, and awareness, facets of mindfulness alone. Stress was inversely predicted by non-judging, awareness, and non-reactivity (mindfulness), and positively predicted by isolation (negative self-compassion). Our results extend the existing literature by identifying the facets of mindfulness and self-compassion that differentially predict depression, anxiety, and stress when examined together with self-efficacy, in a population of undergraduates. (Department of Psychology Honors Research Project)

STRESS AND WELL-BEING: RELATIONSHIPS WITH MINDFULNESS, SELF-COMPASSION, AND SELF-EFFICACY

Carolyn J. Wilcomb*Faculty Adviser: Champika K. Soysa, Ph.D.*

Researchers have examined mindfulness, self-compassion, and self-efficacy in their relationships with stress and well-being. We examined several new facets of mindfulness, self-compassion, and self-efficacy as correlates of stress and well-being in a sample of 150 undergraduates. As predicted, facets of mindfulness and self-efficacy were positively associated with well-being and inversely associated with stress. The positive facets of self-compassion were positively associated with well-being and inversely associated with stress, while the negative facets of self-compassion were inversely associated with well-being and positively associated with stress. Our results contribute to the literature by establishing associations between five facets of mindfulness, six facets of self-compassion, and two facets of self-efficacy in relation to both stress and well-being among undergraduates. (Poster presented at the annual meeting of the Eastern Psychological Association in Pittsburgh, Penn., March 2012).

SOCIOLOGY

EVALUATING THE EFFECTIVENESS OF A NEW PROGRAM MODEL: CLUB 21 **Matthew Johnsen, Amy Ebbeson, Gary Marinin**

This poster evaluates the effectiveness of Club 21, a program model designed to expand social networks of adults with psychiatric disabilities. Club members responded to a survey regarding their experiences with the program, conducted twelve months after the inception of the program. The surveys demonstrated beneficial outcomes for participants including moderate to very strong ties between partners, high levels of satisfaction with the club, and commitment from most participants both to continue involvement and recommend the club to friends and family. The Club 21 model appears promising in its approach to helping persons with psychiatric disabilities expand their social networks.

EVALUATING THE EFFECTIVENESS OF A NEW PROGRAM MODEL: CLUB 21 REVISITED

Students of SO 275 Social and Behavioral Stats/HE 22 MH Education**Gary Marinin, Jill Clough***Faculty Advisers: Matthew Johnsen, Ph.D., Amy Ebbeson*

This poster evaluates the effectiveness of Club 21, a program model designed to expand social networks of adults with psychiatric disabilities. Club members responded to a survey regarding their experiences with the program, conducted twenty four months after the inception of the program. The surveys demonstrated beneficial outcomes for participants including moderate to very strong ties between partners, high levels of satisfaction with the club, and commitment from most participants both to continue involvement and recommend the club to friends and family. This evaluation extended the first evaluation by collecting information about the social networks among Club 21 members. The Club 21 model appears promising in its approach to helping persons with psychiatric disabilities expand their social networks.

HISTORY MOVES IN SPIRALS: SUBSISTENCE TECHNOLOGY AND SOCIAL MOVEMENTS **

Gary Marinin

Matthew Johnsen, Ph.D.

Productive forces that influence an economic transition cause a change in man's social and economic relations. As 21st C. society transitions into the post-industrial society, led by an economic shift from manufacturing to intellectual property, it is evident there will be significant amounts of class warfare and turmoil on the way to stabilization. Examples of class warfare and turmoil are evident in the rise of "Occupy", "Anonymous", riots over austerity measures and the overthrow of Iceland's government. We performed a historical analysis by analyzing the 19th C. economic shift from an agricultural to an industrial society to demonstrate that this phenomenon is common during economic transition. We aim to determine potential changes in social relations in contemporary society and what lessons can be learned from our past. Using dialectical theory we feel that the transitioning economy will be based on relationships between people and not between people.

URBAN STUDIES

HUNGER OUTREACH TEAM (HOT) FIGHTS HUNGER IN THE COMMUNITY AND ON CAMPUS

Thea Aschkenase, Judith Knight, Carolyn Graham, Helen Shuster, Gladys Wood, Mary Mawdsley, Amanda Johnson, Desiree Cunningham, Kaleigh McManus

Faculty Adviser: Maureen E. Power, Ph.D.

The Hunger Outreach Team (HOT) is an intergenerational team of WSU students whose mission is to reduce hunger through research, education, and direct assistance. The team educates both elders in the community and college students about SNAP (Supplemental Nutrition Assistance Program, formerly called Food Stamps). The team visits senior housing and councils on aging with SNAP BINGO, a game created to dispel misconceptions about SNAP benefits. HOT campus outreach includes information about WSU student SNAP eligibility, as well as free confidential assistance in the SNAP office located in Urban Studies, S129. HOT also raises hunger awareness through the Empty Bowl event, a campus-wide fundraiser for local hunger relief. The team researches developments and innovative strategies in other states and communities and advocates for hunger relief in central Massachusetts. SNAP benefits help individuals while strengthening local economies, since every \$5.00 of new SNAP benefits generates \$9.35 locally.

VISUAL AND PERFORMING ARTS

THESIS SHOW **

Bethany Eddy, Kayla Feist, Lukas Godaire, Brittni Kirk, Bethany Strothers

Faculty Advisers: Stacey Parker, M.F.A., Amaryllis Siniosoglou, M.F.A., Catherine Wilcox-Titus, Ph.D.

We have the work of five graduating seniors in the Gallery for our first Thesis Show this spring. Bethany Eddy is using historical costumes from influential time periods to investigate their connections to today's art disciplines. Kayla Feist's themes are occult ideas and practices, and she finds beauty in using natural materials like bones and moss. Lukas Godaire pairs oil paintings with music to create a multisensory atmosphere for the viewer. His triptych traces the light from dusk to night. Brittni Kirk captures the essence of a person in linocut portraits that are accompanied by handmade books. Bethany Strothers' oil paintings translate what she sees in the natural world into abstract imagery. **The show will be on view Tuesday, Wednesday, Thursday, and Saturday afternoons from 1-5 pm, April 18-May 10 or by appointment.** Contact Catherine Wilcox-Titus cwilcoxtitus@worchester.edu for more information.

WORLD LANGUAGES**THE FAILURES OF THE ECONOMIC EMBARGO AGAINST CUBA ******Joseph Teevens***Faculty Adviser: Guillermina Elissondo, Ph.D.*

Beginning with the Eisenhower administration in the early 1960s, the United States government has enforced a controversial economic embargo against the small island of Cuba. This economic blockade came about as the result of the successful Cuban Revolution of 1959 that saw Fidel Castro ascend to power. Castro, an avowed Communist, had overthrown the dictatorship of Fulgencio Batista, a dictator that while brutal, had been friendly to US interests. The U.S. government instated the blockade with the sole objective of removing Castro from power. Ironically, the Castro administration has actually consolidated its power by convincing the Cuban people that all of Cuba's economic woes are due to the blockade and that the United States is just waiting for the Cuban people to give up in order to swoop in and take over the country. This presentation will explore the failures of the blockade and how it has affected relations. **This presentation will take place in the Sullivan Building, Room 301 at 12:30 p.m.**

THE LANGUAGES OF ACCESS TO HIGHER ED**Delfi Vargas***Faculty Adviser: Mark Wagner, Ph.D.*

Spring of 2012, Delfi Vargas, a junior Business and Spanish major, is doing an internship / service learning with Dynamy, an access non-profit program that works closely with Worcester Public School high school Students. Delfi's fluency in Spanish has been of tremendous benefit as Dynamy works with students and parents in need of translation services. Delfi works directly with the youth academy, their leadership program, and low income Worcester High School students whose life circumstances put them at risk for not reaching their academic and career potential. Translating everything from PowerPoints for parents to Dynamy's organizational brochure, Delfi is ensuring that low income families have the resources they need to gain access to higher education. Her presentation will be a poster with pictures and an assortment of materials she has translated.



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