



Research & Creative Activity Day

Abstract Booklet

October 31, 2019

Office of Research and Sponsored Programs



Because West Chester University seeks to be a leader in local, regional, and global sustainability efforts, the Office of Research and Sponsored programs has collaborated with the Office of Sustainability to create a special designation for those Research and Creative Activity Day projects that perpetuate the health and welfare of people, economies, and the environment. Thus, all abstracts identified with *the Brandywine B* reveal the many ways that West Chester University faculty and students are helping to design, implement, evaluate, and improve a variety of environmental, social, and economic sustainability activities.

POSTER PRESENTATION ABSTRACTS



Easel #1 The Effect of School Breakfast Consumption on Obesity

Aubrey Redd (Nutrition)

Faculty Mentor: Dr. Alessandra Sarcona (Nutrition)

Objective: To determine the effect of school-based breakfast programming on the incidence of obesity in school-age children.

Method: A systematic review of evidence-based research was conducted to establish a set of data to reflect the direct effects of school breakfast consumption on weight status. Numerous databases were included in the research scope. Specific inclusion and exclusion criteria were predetermined in order to prevent bias and narrow search results.

Results: Research on the subject is limited and inconclusive, but majority of the research suggests there is no direct connection between school breakfast consumption and obesity. That being said, limited research suggests that school breakfast consumption may lower incidence of obesity. Additionally, research indicates that school breakfast consumption may positively influence daily nutrient intake. Regular consumption of breakfast via school-based breakfast programming may positively influence overall dietary intake, and promote a healthier weight status over time.

Conclusion: Continued research on the subject may yield more information about the connections between school-based breakfast programming and incidence of obesity. Although no direct connection can be drawn, school breakfast was found to increase overall nutrient intake in children, and may be one of a few important factors in establishing a healthy lifestyle throughout childhood and adolescence.

Easel #2 The American Perspective on Italian Food Culture

Noah Lessner (Anthropology & Sociology)

Faculty Mentor: Dr. Michael Di Giovine (Anthropology & Sociology)

Based on qualitative ethnographic research such as participant observation and interviews, this poster analyzes the change in American study abroad students' perceptions of Italian food both before they departed for Italy and at the end of their time in Italy. The research engaged in participant observation with students during visits to markets, farms, and restaurants, and further utilized interviews to explore the different perceptions that American students had of the food culture of Italy going into the trip and at the end of their trip. Students shared their past experiences with Italian American food in the United States; some students were surprised at certain customs and traditions that the locals upheld, as well as regional differences in foodways that are not often acknowledged in the United States, while others reported inherent differences in the creation and consumption of the foods they ate while in Italy. The study found that student's perceptions of Italian food did in fact change over time from the beginning of their trip to the conclusion of their trip in direct correlation to students' acculturation into Italian life. It can be valuable in understanding how the cycle of culture shock and acculturation is articulated through one's perception and embrace of local food.

Easel #3 The Shakespeare, Psychiatry, And Nineteenth-Century American Culture

Panagiotis Christoforos Sarris (English)

Faculty Mentor: Dr. Joseph Navitsky (English)

One highly specific corner of Shakespeare studies that remains largely overlooked is the seemingly inexplicable bardolatry (i.e., the excessive worship of William Shakespeare and his works) exhibited in the field of American psychiatry during the mid-nineteenth-century. As Benjamin Reiss reminds us, a survey of the American Journal of Insanity archives indicates that, during the 1800s, Abner Otis Kellogg, Isaac Ray, Amariah Brigham, and other prominent members of America's first generation of psychiatrists depended on Shakespeare's plays more than on any medical texts or empirical research to justify their theories and practices. The bardolatry of mid-nineteenth-century psychiatrists strongly reflects an American conception known as the agrarian myth—a myth about the supposed moral superiority of agrarian life; the roots of this myth stretch back far into the nation's past, with prominent figures like Thomas Jefferson endorsing it. Furthermore, bardolatry among mid-1800s American psychiatrists also arose to meet the exigencies of a post-Enlightenment, Jacksonian society, which was suspicious of anything that it deemed elitist and had a strong inclination to see the world in clear-eyed, positivist terms.

Easel #5 Mental Health Education for School Nurses

Megan MacDonald (Nursing)

Faculty Mentor: Dr. Joshua Baker (Nursing)



Purpose: An evaluation of the preparedness of nurses' interacting with children and adolescents with mental illness was conducted. Use of formalized education programs, such as Mental Health First Aid (MHFA) and standardized patient simulation education for school nurses was evaluated, revealing limited research for these combined topics. Search criteria were expanded determining if the education interventions used would benefit school nurses and pre-licensure nursing students reducing associated risks, negative lifelong impacts, and increased risk of death by suicide for adolescents and children.

Methods:

A literature search was conducted using EBSCOhost, PubMed, and CINAHL. Search terms included: children, adolescents, nurse education, MHFA, and simulation education. The John Hopkins Nursing Evidence Based Practice (JHNEBP) Model was used critically appraising the evidence.

Findings:

Ten studies utilizing MHFA or simulation as a knowledge-based intervention for nurses were analyzed. Literature suggests that early recognition and intervention reduces the impacts of untreated mental illness, including death by suicide.

Synthesis of Evidence:

- Implementing education sessions on mental illness, nurses had better recognition, increased knowledge, improved confidence, and decreased stigma of mental illness.
- Incorporating MHFA training increased knowledge, confidence, and interventions, while decreasing stigmatizing attitudes.
- Utilization of simulation experiences increased: knowledge, assessment skills, critical thinking, communication, and self-reported confidence.

Future Translation to Practice: Incorporate collaborative formal education sessions, such as MHFA or standardized simulation experiences, increasing interventions that may reduce the negative impacts of untreated or unrecognized symptoms. Educational strategies may reduce stigma, improve assessment and critical thinking skills among school nurses and pre-licensure nursing students.

Easel #7 The Impact of Intuitive Eating on Weight-Related Behaviors and Dietary Habits in College Students

Melissa Gallagher (Nutrition)

Faculty Mentor: Dr. Alessandra Sarcona (Nutrition)



Objective: To determine the impact of intuitive eating (IE) on weight-related behaviors and dietary habits in college students.

Methods: An electronic literature search was completed during May 2019. The purpose of the literature search was to identify studies utilizing the following databases: Medline, Academic Search Complete, CINAHL, and PsychInfo. The database search included articles published from January 2006 through May 2019.

Results: Of the six studies included in the final review for this paper, five were cross-sectional studies and one was a quasi-experimental design. The quasi-experimental design assessed changes in IE such as being in tune with the body's natural hunger and satiety cues as well as dieting behaviors and anti-fat attitudes. The other cross-sectional studies looked at correlations between IE and restraint; and associations between weight-related shame and IE as a protective factor in colleges students.

Conclusion: The findings suggest that IE may have benefits in terms of weight and disordered eating behaviors. A model of eating that is focused on internal hunger satisfaction, moderation and balance in food choice along with elimination of good/bad food stigmas may provide a more meaningful avenue of healthy weight promotion. This review highlighted the value of shifting the focus from restrictive diet approaches to IE practices when it comes to weight management and positive dietary behaviors. Further research is needed to evaluate the long-term impacts, such as lifestyle sustainability, for IE diet behaviors.

Easel #8 Rewriting Rebirth in Booker-Prize Novels

Madison Meinel (English)

Faculty Mentor: Dr. Eleanor Shevlin (English)

This project explores the frequent theme of rebirth in Booker prize-winning novels whose characteristics—especially in terms of setting and plot might otherwise seem to differ greatly from one another. To illustrate, I focus on two recent winners of this prize: Richard Flanagan's *The Narrow Road to The Deep North* (2013) and Aravind Adiga's *The White Tiger* (2008). Yet, in exploring how Booker novels often perform a rewriting of rebirth, I undertake a rewriting of my own. Rather than employing the traditional conventions of academic prose, I instead adopt the experimental approach to integrating sources that George Saunders uses in his novel *Lincoln in the Bardo*. The resulting paper presents an in-depth conversation between multiple sources, creating a seamless thread of ideas relating back to the main topic of rebirth and illuminating these novels' treatment of this theme. Not only does this paper deftly place excerpts of academic sources and the novels themselves in dialogue with one another, but it also showcases my argument and voice in fresh ways simply not possible in traditional academic prose. In short, unlike the traditional student research paper in which the student's voice and points can easily be overshadowed by those of prominent academics, this dialogic presentation of primary and secondary sources enables my own commentary and direction to rhetorically and even visually take command on the page. My project not only offers original analysis of two award-winning novels but also affords an illustration of criticism as a creative as well as analytical process.

Easel #9 Deadnaming And Overkill: An Examination of Homicide Perpetrated Against the Transgender Community

Jacqueline Carsello (Criminal Justice)

Faculty Mentor: Dr. Michael Antonio (Criminal Justice)

Despite recent advancements toward equality for members of the LGBT (Lesbian, Gay, Bisexual, Transgender) community, violence against the transgender community is ever-present and continues to increase. Transgender victims of violence tend to be misidentified by police, who often deadname victims, and despite federal hate crimes statutes to protect violence against gender minorities, members of the transgender community are not protected. Crimes against the transgender community do not often have a hate crimes statute attached despite the level of hate and overkill that is present with these offenses. This study analyzes the violence committed against transgender persons by collecting demographic information about each victim over the last five years (2015-2019). This study analyzes the difference in the race of the victim over time, and the difference in the race of the victim across different regions of the U.S. This paper also analyzes whether or not victims have been deadnamed by the police or media in initial reports of the crime, and whether or not signs of overkill were present in each case. The purpose of this analysis is to determine if the frequency of these variables has increased since 2016.

Easel #10 Assessing Mental Health Service Availability in Chester County

Emily Feldman (Psychology)

Faculty Mentor: Dr. Stevie Grasseti (Psychology)

Introduction: Domestic violence (DV) is a highly prevalent traumatic experience that impacts millions of people in the United States each year. Experiencing or witnessing DV can yield harmful outcomes for both adults and children, including an increased risk for developing Post-Traumatic Stress Disorder (PTSD; Dutton et al., 2006). There are several evidence-based treatments (EBTs) for PTSD, but not all these services are available or accessible to victims of DV.

Objective: In order to better serve local families that have experienced DV, it is necessary to determine which trauma-informed services are available to meet their needs. The current study describes the availability of therapeutic for victims of DV in Chester County, PA.

Method: A survey was distributed to clinicians in Chester County (n=370) with a response rate of 16% (n=60). This survey assessed the EBTs offered for PTSD, ages served, methods of compensation, and length of waitlist.

Results: Only 17% of respondents indicated that they provide 4 or more types of EBTs for trauma. The majority (70%) offer services to both children and adults, however, only 1 of 14 respondents that serve adults provided more than 4 treatments. 48.3% of respondents accept insurance, and only 8% of those who accept insurance offer more than 4 types of treatment.

Discussion: Results highlight the need for a greater breadth of low-cost services for victims of DV. These findings can inform the development of novel trauma-informed treatment models that better serve local families who have experienced DV.

Easel #11 Lost In Translation: A Linguistic Study of The Translated Novel

Ashley Pogash (Philosophy)

Faculty Mentor: Dr. Eleanor Shevlin (English)

What gets lost in translation? My project examines the cultural significance of language, and explores the way translated novels inevitably lead to different interpretations than the original. I focus specifically on Iraqi novelist Ahmed Saadawi's *Frankenstein in Baghdad*, which was a finalist for The Man Booker International Prize. An Arabic twist on Shelley's *Frankenstein*, the novel combines sociocultural and religious overtones to shed light on the horrific reality of US-occupied Baghdad. The novel is meant to place readers in the streets of Baghdad, scared for their lives and even more terrified of the spiritual implications of warfare. The English version has linguistic and contextual limitations that don't allow for that same reader experience. This research uses translation studies with particular attention to diction to uncover the linguistic and contextual changes that result from translating culturally incompatible languages. Specifically, this research focuses on Arabic distinctions of the soul and dying, and the way that those distinctions are lost in translation. This loss, in turn, results in both a loss of the original cultural significance of a novel in its English translation and drastically different interpretations for the reader reading the translated version.

Easel #12 School Mindfulness Project Phase 1

Emily Hershorin (Psychology)

Faculty Mentor: Dr. Stevie Grasseti (Psychology)



Recent estimates suggest that very few teachers in the United States are satisfied with their jobs and that more than half of these teachers report experiencing a high level of stress several days per week (Markow, Macia, & Lee, 2005). Teachers who work with economically disadvantaged students and students who struggle academically may be particularly likely to experience high levels of stress due to higher student needs (Yong & Yue, 2008). Stress contributes to teacher burnout which, in turn, impairing teachers' normal habits and ability to respond to typical needs in the classroom such as positive student-teacher relations and student support (Arens and Morin, 2016). Evidence suggests that teacher burnout also increases turnover rates which directly and negatively impact students' learning and achievement (Ronfeldt et. al., 2011). In short, teachers could benefit from learning skills to manage stress and prevent burnout. Mindfulness training offers one promising strategy, focusing on being present in the moment, and being aware of what is happening in the current situation. Previous research has found that focusing on mindfulness in the classroom can result in an increase in well-being and maintaining better relationships with students (Meiklejohn et. al., 2012). The present study follows a longitudinal quasi-experimental group comparison design in which we compare two groups of teachers at an urban Elementary school. The experimental group includes (n=31) teachers who are participating in a 6-week mindfulness curriculum at school. The comparison group includes (n=32) teachers who elected not to participate. T-tests will examine hypothesized group differences in mindfulness, teacher self-efficacy, teacher self-regulation, and teacher burnout. We hypothesize that teachers who participate in the program will report a higher level of control and lower level of noise in their classroom compared to those teachers who do not participate. We expect to be able to report preliminary results by mid-October.

Easel #13 Proposal of A 2gen Approach to Treating Trauma for Mothers with Substance-Use and Their Children

Rosa Boniface (Psychology)

Faculty Mentor: Dr. Stevie Grasseti (Psychology)

Epidemiological research shows a substantial comorbidity between posttraumatic stress disorder (PTSD) and substance use disorder (SUD)¹. Estimates from 2005 indicate 59% of individuals with SUDs had cooccurring PTSD, resulting in worse treatment outcomes¹. Further findings show women are 3 to 4 times more likely to develop SUDs when they have a diagnosis of PTSD¹. Intergenerational trauma, or trauma passed through caregiver to child, remains a prevalent issue for parents suffering from SUD². Children who experience a traumatic event have an increased risk for their own SUD. Current services typically treat the parent and child individually, despite research showing positive relational and therapeutic effects when parents and children are treated together². A recent needs assessment of Chester County's therapeutic services found a limited number of trauma-focused therapies available for families³. This study describes a plan to pilot an innovative treatment modality that aims to be more effective including both the youth and their parents within one treatment modality. A 2Generational (2Gen) approach is a method in which the needs of children and parents are addressed together to help promote cohesion⁴. In collaboration with the Kindred House, a SUD treatment facility for women and their children in Chester County, we aim to improve access to trauma-informed services for mothers with SUDs and their children. Testing outcomes associated with the 2Gen approach, we predict that mothers will report lower levels of PTSD symptoms and perceived stress, a more positive mood, more confidence in their parenting skills, and reported enhanced relationship with their children.

Easel #14 Barriers to Breastfeeding for Psychology Graduate Student Mothers

Caroline Guzi (Psychology)

Faculty Mentor: Dr. Stevie Grasseti (Psychology)

Breastfeeding has multiple health benefits for both mothers and their infants (Leon-Cava, Lutter, Ross, & Martin, 2002) as well as public health (Binns, Lee, & Low, 2016) and economic benefits (Weimer/UDSA, 2001). Additionally, the field of psychology has consistently emphasized the importance of parent-child attachment, which can be promoted through breastfeeding (Jansen, de Weerth, & Riksen-Walraven, 2008). Despite the benefits, there are barriers that can interfere with a mother's ability to breastfeed, particularly when mothers work outside of the home. Graduate student mothers face particular challenges because, as students and part-time trainees, they are typically not protected by traditional employment regulations. The purpose of this research is to explore the frequency of three known barriers to breastfeeding, particularly for mothers who are psychology graduate students: adequate breaks to accommodate breastfeeding, access to clean and private spaces, and feeling comfortable with lactation policies. Individuals who became parents while in graduate training in psychology completed an online survey about their experiences. A subsample of 115 women reported having breastfed their children and are the focus of this study. A review of frequency data suggested that the barrier experienced most frequently by these participants was feeling comfortable with lactation policies at training sites (44.2%), followed by adequate breaks to accommodate breastfeeding (38.9%), and access to a private and clean space to breastfeed or express breastmilk (26.5%). Findings have implications for West Chester University psychology graduate programs and similar graduate training programs.

Easel #15 Predictors of Meaningful Work Perceptions

Kimberly Fazio (Psychology)

Faculty Mentor: Dr. Vipanchi Mishra (Psychology)

As the economic labor markets continue to shift towards knowledge-based work, it is important to understand the factors that influence the intrinsic motivation of workers involved in such jobs. Additionally, as people have become to define themselves and be socially defined by their work (Casey, 1995), understanding alternate sources of meaning in work becomes a natural outgrowth for organizational systems valuing human thriving and contribution to the greater good (Wrzesniewski, 2003). Therefore, the purpose of the present study was to investigate the effects of affirmative self-concept constructs such as growth mindset and self-efficacy and the influence these individual differences have on employee's perceptions of meaningful work. The present study utilized a post hoc analysis of previously collected data from 318 U.S. based employees via an online survey from a large professional services firm. The results of the analysis indicated that the two variables of growth mindset and self-efficacy explained 7.3% of the variance in experience of meaningful work over and above the control variables. Specifically, self-efficacy was found to have a larger influence on predicting meaningful work than growth mindset. Based on these results, it is recommended that management be attentive to their employees' sense of control of their work and power to complete job tasks. Further research may seek to explore the larger influences over experiencing meaningful work in order to enhance employee well-being as well as organizational performance.

Easel #16 Association Between Low Dose of Aspirin and Coronary Artery Disease

Pratik Sharma (Health)

Faculty Mentor: Dr. Ramona Stone (Health)

Purpose: Recent evidence unveil discrepancies between clinical guidelines for the use of low aspirin dosage towards primary prevention of cardiovascular disease (CVD) and the clinical pattern followed by patients. Thus, we decided to run a cross sectional study to determine the association between a regimen of preventative low dose aspirin and CVD.

Methods: Data was extracted from 2013-2014 NHANES (National Health and Nutrition Examination Survey) to test the association between a low dose of aspirin and CVD. A nationally representative sample of 25,055 adults aged 40 years or above were included in the study. Bivariate analysis and logistic regression were performed to assess the association between aspirin dosage and CVD. Regression has been adjusted for sociodemographic conditions and comorbidities

Results: A Bivariate analysis (Cross-tabulation and independent T-test) was carried out to test demographic characteristics and co-morbidities that had occurred while using low dose aspirin. A significant association was found with $\chi^2 (1) = 234.123$, $p < .001$. The Logistic regression model was carried out and adjusted for potential confounding factors. A non-significant association was noted with $\chi^2 (10) = 28.848$ with $p = .120$.

Conclusion: There is no association between preventative low dose aspirin in prevention of CVD. Despite a lot of literature that indicates significant improvement in patient outcomes during the last decade, this cross-sectional study indicates that most patients do not show improvement in cardiovascular health from preventative aspirin use. One possible reason may lie in the "antiplatelet drug resistance" phenomenon; further research is needed.

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Easel #17 Eaters of The Market

Anissa Kunchick (Anthropology & Sociology)

Faculty Mentor: Dr. Michael Di Giovine (Anthropology & Sociology)



This poster argues that farmers' markets in central Italy continue to serve to improve quality of life, as well as promote grassroots food activism and sustainability tied to the Slow Food movement. The research was based on five weeks of ethnographic research in which the author conducted participant observation, site visits, and qualitative interviews with vendors ranging from small-scale winemakers to local butchers, cheesemakers, truffle hunters and honey producers in Perugia. The poster will highlight the concept of slow food, its emergence in Italy, and its impact on Italian heritage and culture when applied to markets. A large portion of the contribution that markets provide to Italian culture is the transformation of a consumer into an eater—a phenomenon advocated by the slow food movement as well as interdisciplinary food studies activists. In doing so, the presentation sheds light on issues such as localism, capitalism, and fast food vs slow food.

Easel #18 Analyzing Potential Gender Gap Differences Between Mindfulness and Stress

Upasna Singh (Psychology)

Faculty Mentor: Dr. Teresa Donze-Reiner (Biology)

Mindfulness is a state of nonjudgmental awareness and attention to the present moment. Trait mindfulness is one's predisposition to be mindful in daily life. Previous studies found inverse associations between trait mindfulness and stress, but it is unclear if gender moderates this association. Using an anonymous online survey study, we explored if Rowan University students showed significant correlational differences between mindfulness and stress across male and female gender. We hypothesized that the correlation between mindfulness and stress in female students will be significantly stronger when compared to male students, such that female students with higher trait mindfulness have lower stress compared to males. We used the Cognitive Affective Mindfulness Scale (CAMS-R) to measure trait mindfulness and the Perceived Stress Scale (PSS) to measure stress. Correlations between mindfulness and stress were performed and a Fisher's Z tested for differences between these two correlations. Although the results showed significant differences between average scores of trait mindfulness and stress, with males having a higher score in trait mindfulness ($p = 0.006$) and females having a higher score in stress ($p < 0.0001$), correlations between trait mindfulness and stress in males ($r = -0.598$) and females ($r = -0.691$) did not significantly differ ($p = 0.126$). In conclusion, trait mindfulness did correlate with lower stress across genders, but the relationship between trait mindfulness and stress did not differ between genders, contrary to our prediction. Therefore, mindfulness interventions may be equally useful for both male and female college students to reduce stress and increase mindfulness.

Easel #19 Method Development for Analysis of Organic Gunshot Residues

Connor McCausland (Chemistry)

Faculty Mentor: Dr. Monica Joshi (Chemistry)

Traditional forensic analysis of gunshot residue primarily focuses on the inorganic residues while leaving the organic residues largely ignored. This is slowly changing. There is an increased push in the forensic community to analyze both components of GSR. The standard approach to analyzing organic gunshot residues is gas chromatography-mass spectrometry (GC-MS) or liquid chromatography-mass spectrometry (LC-MS). In this study, we focus on developing a method for stand-alone mass spectrometry using an atmospheric pressure chemical ionization (APCI) source. The aim is to develop a rapid and sensitive screening technique that will serve as an alternative to the traditional GC-MS and LC-MS. Our target analytes include several organic gunshot residue components that originate from the propellant or the primer. We systematically studied the solvent system and the ionization parameters to obtain an ideal method for all our target analytes. The selective ion monitoring (SIM) technique combined with solid phase microextraction (SPME) sample preconcentration allows for the rapid and sensitive detection of organic gunshot residues.

Easel #20 Impact of Oral Probiotics on Group B Streptococcal Colonization Rates in Intrapartum Women

Kaycee Brown (Nursing)

Faculty Mentor: Dr. Michelle Kensey (Nursing)

Abstract

Group B Streptococcus (GBS) is a bacterium that is found in healthy people, commonly in the flora of the vagina, rectum and intestines. In people who are healthy and not pregnant the bacteria will rarely cause serious illness or complications. However, women who test positive for GBS during pregnancy can pass the bacteria to their baby during childbirth. Group B Streptococcus (GBS) is one of the leading causes of perinatal morbidity and mortality including neonatal sepsis and maternal puerperium infections. Screening for GBS typically begins 35-37 weeks of gestation and currently 20-35% of intrapartum women receive prophylactic intravenous antibiotics to treat vaginal GBS colonization prior to delivery. Although prophylactic antibiotics are an effective way to prevent perinatal transmission, there have been increasing issues surrounding this form of management including costs, possible allergic reactions and antimicrobial resistance development. This paper will examine the effects of an oral prenatal probiotic to decrease vaginal Group B Streptococcus (GBS) colonization rates.

Keywords: Group B streptococcus, pregnancy, probiotics

Easel #21 The Stability of Human Telomere G-Quadruplex Under Different Buffer Conditions

Tran Nguyen (Chemistry)

Faculty Mentor: Dr. Mahrukh Azam (Chemistry)

Formation of G-quadruplex through Hoogsteen hydrogen bonds of guanine base in DNA has been proven to inhibit cancer growth by impeding elongation at telomere region. Vast majority efforts has been made to identify synthetic and natural compounds that lock telomeric DNA in a G-quadruplex conformation or potentially inhibit uncontrollable proliferation of telomerase in cancer cell or shorten telomere through direct uncapping mechanism that induces degradation of the telomeric 3' G-overhang. Many studies have verified that different cations will promote different intramolecular foldings to stabilize G-quadruplex formation depending on DNA sequences. For our project, human telomere Tel22 was used to study the intramolecular folding conformation in 5K, 50Na, 100Li, TB-TMACl buffers on CD spectroscopy. Additionally, N-methyl mesoporphyrin IX (NMM) is a useful fluorescence probe for monitoring the concentration of quadruplex structures and their stabilities due to its highly selective binding ability and fluorescence in the presence of quadruplex DNA compared to single and double strands. We also further investigated the optimal pH levels for different salt types and generated the best buffer condition for highest stability in different G quadruplex sequences.

Easel #22 Evaluation of A Brief Motivational Intervention for Incarcerated Adolescents

Cassidy Tennity, Emily Feldman, Shelby Kreglow, Trinity Banks (Psychology)

Faculty Mentor: Dr. Stevie Grasseti (Psychology)

Background: Juvenile offenders who use substances are at an increased risk for a variety of negative trajectories, including problematic substance use that persists into adulthood (Englund, Egeland, Oliva, & Collins, 2008; Stone, Becker, Huber, & Catalano, 2012). Free Talk is a brief motivational intervention to reduce substance use that has previously been evaluated in first-time drug offenders diverted from the criminal justice setting (A'Dmico, Chan Osilla, & Hunter, 2010).

Objective: The purpose of this study was to evaluate feasibility and outcomes associated with the Free Talk program when implemented in a short-term juvenile justice setting for all detained youth.

Methods: 49 youth (68.3% male; M age=15.31) detained in a juvenile detention facility participated in "Free Talk" over five weeks. Baseline alcohol and drug use was assessed using the Massachusetts Youth Screening Instrument (MAYSI; Grisso & Barnum, 2001). Motivation was assessed at each session using the University of Rhode Island Change Assessment (URICA; DiClemente, Schlundt, & Gemmell, 2004).

Results: A paired samples t-test revealed a significant difference in motivation between the first session (M=6.94, SD=2.49) and the last session (M=5.78, SD=2.82); $t(19)=3.375$, $p<.01$. Descriptive analyses showed that only 20% of individuals experienced increases in motivation throughout the program, and those who experienced increases in motivation had higher average substance use at baseline (M=4, SD=.816) than those who did not experience increased motivation (M=1.75, SD=2.32).

Discussion: Although significant decreases in motivation were observed overall, results suggest that this intervention may only be effective for those with higher levels of substance or alcohol use at baseline. Results will be discussed in terms of suggested adaptations.

Easel #23 Automated Detection of Glaucoma Indicators with Machine Learning

Jon Kilgannon (Computer Science)

Faculty Mentor: Dr. Richard Burns (Computer Science)

We are designing and building a computer system to automatically detect and measure known indicators of glaucoma in the human retina. The system is trained against hundreds of retina images in the RIGA database, which have been marked by six different ophthalmologists to give a breadth of opinions on where the measurable features are in the eye.

While many First World ophthalmologists have access to sophisticated systems to detect the features of the eye which can indicate glaucoma, in many parts of the world a simple digital-camera image of the retina is taken which must be marked by hand by a trained professional, and then the desired features must be measured, again by hand.

The system we are designing will take images of the retina and, using machine learning, automatically identify several features which are used to watch for indications of glaucoma. The system will be pre-installed in a software container, a form of virtualization which allows for programs to be distributed with all their necessary files already installed, giving the user a system that is ready to use out of the box and can be installed on any Linux system with minimal effort.

Easel #24 Cortisol Levels Are Associated with Teacher Reports of Executive Functioning in Preschool Children

Megan Streich (Early & Middle Grades Education)

Faculty Mentor: Dr. Eleanor Brown (Psychology)



Children living/growing up in poverty often face a host of stress-inducing risk factors that have the potential to disadvantage them academically, behaviorally, and socio-emotionally. Prior research has shown that excess cortisol production as a result of high-stress situations has the potential to impair the hippocampus, prefrontal cortex (PFC), and other areas of the brain critical to executive functioning or self-regulation. Executive functions (EFs), have been closely linked to classroom behavior (impulse control, attention span, planning and organization, etc.), and pre-academic readiness. This study specifically examines the potential correlation between diurnal cortisol production, and teacher-reported executive functioning in preschool students attending a Head Start Preschool in Philadelphia, Pennsylvania.

Easel #25 Effect of G2019s Lrrk2 Mutation on C. Elegans Motility

Jonathan Barron (Biology)

Faculty Mentor: Dr. Jessica Sullivan-Brown (Biology)

Understanding the cellular and molecular mechanisms involved in the development of Parkinson's Disease (PD) is a significant focus of neurological research. Parkinson's Disease is a neurodegenerative disease in adults that affects the dopamine producing cells located in the substantia nigra region of the brain. Mutations in the leucine-rich repeat kinase 2 (LRRK2) gene are linked with the development of familial and non-familial PD. The nematode worm *Caenorhabditis elegans* (*C. elegans*) has been used as a model system to express and observe the effects of human G2019S LRRK2 mutations. Previous research suggests these worms display stress susceptibility, mitochondrial dysfunction, and neurodegeneration. However, studies examining the effect of the G2019S LRRK2 mutation on *C. elegans* motility have not yet been examined thoroughly. The goal of this study was to examine the motility of *C. elegans* expressing the G2019S mutation in LRRK2 by measuring distance of travel, overall speed, and motion patterns over a 30 second time interval. Since a major symptom of PD is the characteristic tremors in the hands or limbs, we hypothesized that worm movement could be altered if the worms expressed the human G2019S mutation in LRRK2. We have currently established an assay for measuring these parameters and are currently recording movies and performing data analysis to quantify these worm behaviors.

Easel #26 Metal Ion Detection Using Fluorescent Gold Nanoclusters

Danielle Gendler (Chemistry)

Faculty Mentor: Dr. Jingqiu Hu (Chemistry)

The goal of this research was to investigate the synthesis and application of fluorescent gold nanoclusters (FGNCs) as chemical sensors. Tryptophan capped FGNCs were synthesized at room temperature by mixing HAuCl₄ salt with tryptophan at various mole ratios. The fluorescent properties of the FGNCs were investigated at various pH. The FGNCs made by mixing equal moles of gold salt and tryptophan displayed the strongest emission at 510 nm with a quantum yield of 0.011 at pH 1.0. Upon the addition of Iron(III) ions, the emission of tryptophan capped FGNCs decreased linearly in the concentration range of 0.12 mM to 25 microM Fe³⁺. The chemical sensor has good selectivity toward Fe(III) ions. While the addition of 1.0 mM of Fe³⁺ reduced the emission of FGNCs by 78 %, one equivalent of other divalent metal ions only affected the emission intensity moderately. The tryptophan capped FGNCs are promising "turn off" sensor for the selective detection of Fe (III) ions.

Easel #27 When the Proto-Indo-Iranian And Proto-Balto-Slavic Cultures Separated and A Description Thereof

Dominic Curcio (Languages & Cultures)

Faculty Mentor: Dr. Alice Speh (Languages & Cultures)

Every historical linguist knows that Indo-Iranian and Balto-Slavic languages are related, but my research proposes to approximate the year in which Proto-Balto-Slavic diverged from Indo-Aryan. Additionally, I will contextualize this linguistic development in terms of its surrounding culture. Applying my knowledge of data science, I will identify linguistic patterns exemplifying the divergence of these two language groups. The paper will examine and compare features and words in ancient or proto languages, and discuss likely connections in religious and cultural life, as well as relationships with neighboring ancient civilizations. The Balto-Slavic people have been predominately Christian since about 900AD. Although there are no pre-Christian texts, we can still compare Slavic pagan religion to Hinduism, based on analysis of related lexical and structural features. The oldest Indo-Iranian texts are nearly three thousand years older than the oldest Slavic texts, so much of Balto-Slavic history must be assumed and taken with a grain of salt.

Easel #28 A Linguistic Landscape of Market Street, Philadelphia

Jacqueline Griffith (Languages & Cultures)

Faculty Mentor: Dr. Meg Nüiler (Languages & Cultures)

This project is a linguistic landscape of Market Street in Philadelphia, specifically the block between 30th Street and Schuylkill Avenue in the University City district.

I documented all of the signs, both official and unofficial within the block. I recorded 105 signs and analyzed their linguistic meaning using information from an article titled “Sign of the Times: Exploiting the Urban Linguistic Landscape as a Language Learning Resource” by Damien Williams. I categorized the signs into 6 categories: English only, Identifiable Symbol only, English + Identifiable Symbol, English + Spanish, Multilingual, and Unidentifiable Language or Symbol.

I discovered a strong presence of English Only signs within the block, followed by English + Symbol and Symbol Only signs. I then analyzed the linguistic effects in the neighborhood, specifically looking at the amount of passengers and foot traffic the block receives, the neighborhood demographics, and contrast between official and unofficial signs.

After analyzing the data, I found a need for linguistic diversity, especially within official signs. In addition, I found a linguistic priority in signs regarding safety and security, but a deficit in signs regarding culture and lifestyle.

Easel #29 Study of Core Self-Evaluation, Student Citizenship Behaviors and Counterproductive Student Behaviors
Holly Gasper (Psychology)
Faculty Mentor: Dr. Vipanchi Mishra (Psychology)

Research in organizational settings suggest Core Self-Evaluation can predict participation in positive and negative behaviors called Organizational Citizenship Behaviors (OCBs) and Counterproductive Work Behaviors (CWBs) (Xu & Yu, 2019). Based on findings, the current study proposes to investigate whether CSE can predict students positive and negative behaviors termed Student Citizenship Behaviors (SCBs) and Counterproductive Student Behavior (CSBs). Predicting these behaviors will help institutions address CSBs while promoting SCBs resulting in more qualified student job applicants and increased institutional reputation. Literature also suggests Leader-Member Exchange (LMX) influences the degree to which employees participate in OCBs and CWBs and can moderate this relationship (Milner et al., 2007). Education literature suggests that interactions students have with professors impacts participation in SCBs and CSBs (Seo, 2017). The current study seeks to identify whether these interactions moderate the relationship between CSE and SCBS and CSBs. The research introduces a new term to literature, Teacher-Member Exchange (TSX) to describe this relationship. To capture students' behaviors, participants recruited from West Chester University will be asked to complete a survey regarding CSE, SCBs, CBSs, and TSX. Each participant will also provide contact information for a peer who will be asked to complete a survey of the participants' SCBs and CWBs. It is expected that CSE will be positively related to SCBs and negatively related to CSBs. Additionally, investigators expect high TSX to increase SCBs and low TSX to increase CSBs. Findings from this study will help institutions address concerns quickly and intervene appropriately and help students develop professionally.

Easel #30 The Effect of Hyperbaric Oxygen Therapy on Individuals with Mild Traumatic Brain Injury Symptoms

Kate Gaglias (Sports Medicine)

Faculty Mentor: Dr. Nicole Cattano (Sports Medicine)

Focused Clinical Question: Can hyperbaric oxygen therapy (HBOT) enhance metabolic healing and decrease prolonged symptoms in active individuals with mild traumatic brain injury (mTBI)?

Data Sources: Multiple electronic medical databases and a hand search were utilized. The PICO search was P: (mild traumatic brain injury) OR (concussion) I: HBOT; C: none; O: (symptoms) OR (cognitive)

Study Selection: Inclusion criteria included research written in the English language, published within the last 10 years, conducted on a human population, and Centre of Evidence Based Medicine (CEBM) level two evidence or higher. Exclusion criteria were studies conducting research on animals or human subjects over 70 years old.

Data Extraction: Group means, standard deviations, significance, and effect size were gathered when provided.

Summary Measures: Reported measures included mTBI-related symptoms and cognitive changes.

Evidence Appraisal: Based on the CEBM classification, there were four randomized clinical trials and one prospective cohort.

Search Results: Six articles were found using the PICO search, and five of them were utilized for this CAT.

Data Synthesis: Three articles reported no statistical significance in using HBOT and two articles reported significance. Calculated effect size ranged from $r = .196-.659$, classified as moderate to large.

Evidence Quality: PEDro scores were calculated ranging 6-8 out of 10. Internal validity was based upon high levels of agreement with PICO parameters. Due to such agreement, generalization of these findings would be limited.

Conclusion: Evidence that hyperbaric oxygen therapy is effective in treating active individuals with symptoms from mild traumatic brain injury symptoms remains inconclusive.

Easel #31 Sustainability and The Formation of Identity in A Coastal Community

Alexa Michaels (Anthropology & Sociology)

Faculty Mentor: Dr. Michael Di Giovine (Anthropology & Sociology)



Based on two months of ethnographic research among local environmental activists living in Ocean City NJ, this poster argues that environmental consciousness is a key factor in social identity and the formation of coastal culture. The researcher lived within the year-round resident community, participated in their lifestyle, documented their behaviors, and interviewed them so as to better understand how their local identity is constructed through environmental activism. Using the three pillars of sustainability as a guideline, this paper looks at how locals communicate economic, social and environmental values amongst members of the community and how members convey this importance to outsiders. The research unveiled a hierarchy of localness and looks at how this hierarchy is contested and negotiated in everyday life. Finally, the importance of the label “local” is investigated more generally, with a key focus on which behaviors determine one’s “localness”.

Easel #32 A Dynamic Systems Approach To Max Velocity Running

Tyler Whitacre (Kinesiology)

Faculty Mentor: Dr. Kenneth Clark (Kinesiology)

Phase relationships and stability are tools employed from Dynamic Systems Theory (DST) to study pathology, aging, mechanics, and skill acquisition in human movement. Few investigations into human performance have utilized DST and max velocity running has received near no attention. We aimed to fill the gap by examining how the degree and stability of limb coordination patterns scale with running velocity. Assuming sprinting presents as an issue of optimality, we expect limb patterns to become increasingly antiphase (approaching 180°) and stable (lower STDev) as max velocity increases. **METHODS:** Twenty subjects (ranging from an Olympic sprinter to college students) sprinted 50m at maximum velocity and motion capture was used to recorded kinematics from 30-40m. Center of mass and limb angular positions were computed using a 12-marker model. Relative phase relationships (CRP) between the thighs (T-T), shanks (S-S), and unilateral relationships between the thigh and shank (T-S) were calculated from the Hilbert transform of the segment angles. We used Pearson correlations ($\alpha = .001$) to assess the relationship between limb coordination and velocity. R2 values are reported. **RESULTS:** As relative velocity increased the mean CRP pattern became increasingly antiphase in the T-T (0.643) and S-S patterns (0.630), this was not evident in T-S (Left: 0.345; Right: 0.423). There was a strong and persistent inverse relationship between variability and relative velocity for T-T (-0.788), S-S (-0.695), and T-S (Left: -0.683; Right: -0.785) patterns. **CONCLUSION:** These preliminary data support our hypothesis that limb coordination is increasingly stable and antiphase with faster max velocity.

Easel #33 Procedural Justice: Factors Affecting Inmate Views of Correctional Staff

John Hoover (Criminal Justice)

Faculty Mentor: Dr. Michael Antonio (Criminal Justice)

Various factors may influence how an inmate views the legitimacy of the criminal justice system. According to previous research, the manner how a criminal justice professional portrays him or herself impacts offenders' behaviors. Positive interactions result in the perception that the system is just. This study surveyed inmates in 11 state correctional institutions in Pennsylvania about issues of prison culture. Factors about inmate demographic and personal characteristics, prison programs completed, and time incarcerated, and staff characteristics including tenure and percent of female employees per institution were gathered from Pennsylvania Department of Corrections. The survey responses and inmate and staff data were merged into an SPSS database and analyzed using a series of univariate, bivariate, and multivariate techniques. Trends were analyzed regarding race, education level, time of incarceration, and disciplinary record and comparisons were made for various staff categories within the Department of Corrections.

Easel #34 Becoming Small**Josephine Rohde (Nutrition)****Faculty Mentor: Dr. Michael Di Giovine (Anthropology & Sociology)**

Based on five weeks of ethnographic research (participant observation and interviews) with local food producers, agritourism entrepreneurs, organic farmers and restaurateurs in Perugia, Italy, this poster shows that small-scale food activists have adapted lifestyles grounded in sustainability, including the minimization of meat consumption. Italy has an average meat consumption of about 40.25-41 kg per capita, significantly less than the American diet, consisting of 95.98-101.8 kg of meat consumed per capita (Farchi, August 15, 2017). Meat consumption is known as a co-factor contributing to a large carbon footprint and greenhouse gas emissions. Although movements such as vegetarianism and veganism are more practiced in the United States, there are supporting reasons to believe that throughout Italian regions “meat-minimalism” is a result of sustainable practices. Efforts from small-scale farmers vending their products at local markets, and creating didactic, agritourism farms has influenced residents to purchase sustainable, local products over conventional, mass-selling products. Other farmers have cultivated organic and biodynamic farms to reduce their carbon footprint. By creating fair opportunities to trade with local farms, activists are innovating sustainable and organic solutions to address food insecurity, hunger, and unequal trade. While industrialized food production still climbs to untamable heights, activism from this region has integrated delicious plant-foods made from fresh, organic products in the local area. Further research on sustainable small-scale farming and organic practices, resulting in minimalist meat consumption, is vital for this region and the world.

Easel #35 Optimization of Methodology to Study the Plant Leaf Phyllosphere Community**Sam Johannesen (Biology)****Faculty Mentor: Dr. John Pisciotta (Biology)**

The complex relationships and interactions between microbes and the organisms they inhabit is known to be an incredibly important and potentially beneficial field of study. With the recent advancements and affordability of gene sequencing technologies the acceleration of Metagenomic studies with respect to the analysis of microbial communities on the areal surface of plants (the Phyllosphere) has progressed rapidly. However, there has been a lack of recent research into a standardization of the initial methodology for the sampling of the plant phyllosphere. Many of the recent studies have utilized a buffer-wash and sonication isolation, which would not allow for research into potential differences between different regions of the leaves. The goal of this work was the investigation and optimization of a standard methodology for the isolation of microbial genomic DNA via the use of sterile cotton tipped swabs. The results of this study found that the method that produced the highest yields of microbial genomic DNA was when the surface of 20 leaves were thoroughly swabbed using a single swab. The measurement of total surface area per leaf type was also determined as a way to standardize resulting concentrations between plants with greatly varying morphologies. Future studies may look into how this methodology affects the resulting sequencing results of the community structures of the microbes when isolated using both a buffer-wash and swab methodologies.

Keywords: Phyllosphere, microbiome, DNA isolation

ORAL PRESENTATION ABSTRACTS

Presentation #1 Phenomenological Twilight: Genders, Orientations, and Experiences

Angel Holmes (Philosophy)

Faculty Mentor: Dr. Joan Woolfrey (Philosophy)



This master's thesis applies philosophical concepts in phenomenology and queer theory to popular culture, fictional works, and lived-in experiences. I argue that the marginalization of different gender identities is systemic, affecting people at both the individual level and society abroad. I employ Shulamith Firestone's contention that this oppression is rooted in the division of men and women into biological sex classes as a feature of Western society and then analyze the ramifications this division has for different gender expressions. Firestone believes that the capacity for a person to give birth is tied to social expectations ranging from but not limited to parenting, professional careers, and the culture of romance. These expectations can not only be oppressing, but may further conflict with one's personal identity. To support this notion, I provide phenomenological accounts of non-cisgender identities, i.e., identities that do not align with gender as it is assigned at birth. Using the works of Smokii Sumac, I further provide evidence of these identities as predating the United States. Looking to the present-day, I give phenomenological analyses of non-cisgender Americans, and looking to the future, I discuss what Western culture without a binary patriarchal paradigm could look like. It is my goal in writing this to demonstrate a binary gender system as damaging and encourage varied expression as valid to the LGBT+ populace of the United States.

Presentation #2 Transforming Nutrition-Related Knowledge and Attitudes in The Elderly

Abigail McMahon (Nutrition)

Faculty Mentor: Dr. Dara Dirhan (Nutrition)



Few research studies have been conducted to evaluate the effectiveness of utilizing a faith-based approach for providing nutrition education to elderly religious populations. The purpose of the present research was to study nutrition-related knowledge and attitudes of Immaculate Heart of Mary (IHM) Sisters at Camilla Hall Nursing Home before and after a four-week faith-based nutrition education series. Four sessions were given at the long-term care facility and convent home to educate sisters on MyPlate, portion control, weight management, healthy habits, nutrition labels, while simultaneously incorporating nutrition into religious practices. Sisters in attendance of all four sessions were asked to fill out pre-and-post series surveys with questions on nutrition-related knowledge and attitudes and correlations between health and spirituality ($n=8$). Pre- and post-intervention responses were analyzed on SPSS 24 using paired t-tests. Results showed attitudes on the importance of weight management, mindful eating, eating as a reflection of one's spiritual beliefs, and nourishment of the body were significantly increased from pre-intervention ($p<0.05$). Additionally, belief that Catholic faith influences food choices was significantly increased from pre-intervention ($p<0.01$). Finally, overall attitudes regarding the correlation between health and spirituality significantly increased from pre- to post-intervention ($p<0.01$). Following the faith-based nutrition education series, IHM sisters showed increased attitudes towards the importance of nutrition in their religious practices and increased confidence in nutrition-related knowledge. Results of the study show implications for the effectiveness of targeting elderly religious populations with faith-based nutrition education interventions.

Presentation #3 Factorial Analysis of Regional Senate Elections

Ethan Braglio (Mathematics)

Faculty Mentor: Dr. Frauke Schnell (Political Science)

Regional analysis of Senate Elections to determine the effect of key factors previously tested in the field. Two regions were selected and defined by regional location, economic factors, poverty rates, mean income levels, and education scores. The first region chosen was the Rust Belt region consisting of Pennsylvania, Ohio, Michigan, Wisconsin, Indiana, and Illinois. This region was used as the base level as it is the region with the lowest partisan rates in the country. The second region is the deep Southern States of Alabama, Arkansas, Mississippi, Louisiana, South Carolina, and Georgia. This region has a strong Republican leaning, thus allowing for a great comparison between this and the more bipartisan Rust Belt region. Factorial analysis was run on the factors of incumbency, fundraising, and economic metrics. They were measured on how they impacted a candidate's chance to win a national Senate seat. The independent variable used to test the factor's strength was percentage of the vote the candidates earned. Research in this field has historically not tested the interaction effects, nor the multivariate models that are possible with modern statistical programs. This research has produced models for both regions showcasing the strongest factors that produce the best models for analyzing and predicting Senate election success. This research has laid the groundwork for further research of political factors that determine an election.

Presentation #4 Disinformation in The Digital Realm

Matthew Benner (Computer Science)

Faculty Mentor: Dr. Si Chen (Computer Science)



Disinformation may be poisoning the health of the world. In 2019, the World Health Organization added the population against vaccinations as a global health issue and the US Department of Defense released an ominous report gathered by scientists on climate change—two issues that continue to be “up for debate” in mainstream discourse. The goals of this study are to: (1) create a network to stream information; (2) gain an understanding of the dissemination of mis- and disinformation, from conception to mass consumption; and (3) develop a system for identifying mis- and disinformation based on data patterns. The final report will summarize procedures for controlling mis- and disinformation in global discourse with recommendations for more incisive defense methods.

Presentation #5 The Influence of Introductory Ukulele Lessons on Young Children’s Literacy

Kristin Loughlin (Early & Middle Grades Education)

Faculty Mentor: Dr. Michael J. Bell (Early & Middle Grades Education)

In a five-week study, the teacher-researcher explored the influence of music in kindergarteners’ development of reading fluency and comprehension. Over the course of nine lessons, five- and six-year-old subjects learned to play two ukulele chords and read accompanying lyrics. After six lessons were taught, individual reading fluency and comprehension assessments were administered. Additional fluency and comprehension assessments occurred following the ninth lesson. Comparing the first and second assessments, the average increase in word-decoding accuracy for the subject group was 28.8 percentage points. While comprehension varied among the subjects, those who displayed automaticity in singing and playing the ukulele generally demonstrated the most successful reading comprehension. This finding suggests that the ukulele lessons may have a notable influence on young children’s literacy development.

Presentation #6 Locals Preservation of Heritage Cuisine That Abate Negative Industrialized Food System

Julia Sutton (Nutrition)

Faculty Mentor: Dr. Michael Di Giovine (Anthropology & Sociology)



Based on five weeks of ethnographic research through fieldnotes, conducting participant observations and qualitative interviews in Perugia, Italy, my research analyzes Italy's food culture and its relationship to locals' health from a nutritional and biocultural perspective. Historically, as countries industrialize more food-based processes, we often see negative health consequences with less nutritious food options. However, in central Italy, I saw local small-scale farmers, food activists and locals celebrate traditional ways of eating, resisting the industrialized food methods typically brought with globalization. I observed smaller portions of animal proteins, more fruits, vegetables and whole grains. People rarely ate alone, and mealtime was very important, with most shops closing for lunch. I observed close relationships between consumer and producers at local markets. I clearly saw how important small-scale farms were to biodiversity, local economy and the overall health of a community. More biodiverse farms provided more sustainable and nutritious agriculture, increasing their access to less processed foods while simultaneously increasing their physical, environmental and social health. My research presents a small case study that shows how locals and local food activists celebration of heritage cuisine and traditional eating habits can help off-set negative nutritional practices in the globalizing, industrial food system. I am submitting my research for an oral presentation.

Presentation #7 Social Norms or Individual Values: The Most Effective Way to Promote Sustainable Consumer Behavior

Caroline Remelius (Marketing)

Faculty Mentor: Dr. Chun-Chen (Liz) Wang (Marketing)



Sustainable consumer behavior is the act of purchasing, using and disposing of products in a way that reduces the negative impacts of this consumption on the planet (Gust, 2004). Persuading consumers to adopt this behavior is becoming increasingly important as the negative impacts on the environment continue to grow. This research aims to increase the understanding of how social norms and individual values play a role in a consumer's purchase behavior. It should also provide insight on reducing the attitude-behavior gap in consumers. For this paper, social norms are those behaviors that are deemed normal and appropriate based on the culture in the consumer's community, while individual values are the personal beliefs and convictions that a consumer uses to guide their actions. Social norms and individual values act as the independent variables in this research having a positive effect, an increase in the desired action, on the sustainable behavior of consumers. The methodology this research utilizes are surveys from students at West Chester University and potentially from Villanova. Students are ideal for this research because influencing younger generations of consumers is essential to changing future generations decision making processes. By reviewing the results of these surveys, the expected result is that despite a consumer's individual values, social norms play a more significant role in determining sustainable consumer behavior. By shifting social norms to accept sustainable behavior, marketers will be able to reduce the attitude-behavior gap and increase the number of consumers who follow sustainable purchasing practices.

Presentation #8 The Decline of Aikido in America: The Factors and What to Do About It

Antonio Aloia (History)

Faculty Mentor: Dr. Charles Hardy (History)

The practitioner membership of traditional Japanese martial arts has been on a steady decline in the United States since the Recession of 2008. Two of the martial arts triumvirate of the early and mid-twentieth century in the United States, judo and karate, have taken steps since then to recuperate some of their lost membership numbers – including combining organizations and exploring the educational institution programs. The third, aikido, however, has felt this decline more than its cultural counterparts. Many factors influenced the decline of aikido, including the need for instant gratification, the lack of competitions and sparring within the art, and the art's 'branding problem', to which many instructors/schools are unsure how to properly define their art to outsiders and what teaching methods they should use to obtain and reach their respective training goals and prospective audience. There are varying opinions from practitioners, community leaders, and scholars on how aikido can adapt to the rapidly changing climate and to the now Mixed Martial Arts and Brazilian Jiu Jitsu dominated landscape. Using archived material from Aikido Journal, personally conducted interviews with leading community members of aikido, judo, and karate, and academic sources, the article explores the factors of aikido's decline and what aspects from other martial arts aikido can attempt to implement into its current curriculum and public awareness and persona.

Presentation #9 Democracy's Effect on Quality of Life Over Time

Duncan Espenshade (Political Science)

Faculty Mentor: Dr. Jenna Becker-Kane (Political Science)



The world is drifting away from democratic governance. Political parties around the globe are eroding democratic institutions with extreme populist politics, whether it be the BJP in India, the Five Star movement in Italy, PSL in Brazil, or SYRIZA in Greece. The so called “end of history” political theory, which predicted that the end of the Cold War would result in a global acceptance of democracy, is being brought into question. Political scientists need to determine if modern democracy can still provide a better quality of life (QOL) when compared to other systems of governance. To do this the effect democracy has on QOL over time needs to be determined. Literature on the topic suggests three potential relationships between democracy and QOL over time. The first of which is purely linear, where quality of life increases as democracy increases overtime. The second is that democracy will initially foster QOL but will eventually hinder it over time. The last potential relationship is that democracy will not immediately foster QOL but will do so over time. To test these relationships democracy rates were compared to quality of life over 185 countries within a 27-year time-frame, with Polity IV rates representing democracy and the Human Development Index representing quality of life.

Presentation #10 Respiration: The Blistered Tale of a Cadaveric Examination of COPD

Jessica McKeown, Racheal Robin, Elizabeth Turbett (Sports Medicine)

Faculty Mentor: Dr. Carolyn Jimenez and Emily Duckett (Sports Medicine)

Purpose

This study focused on the lungs of a male cadaver, 63 years of age, whose cause of death was chronic obstructive pulmonary disease (COPD). COPD can be classified into sub-types as either chronic bronchitis, emphysema, or a combination of the two. The purpose of this study was to determine which sub-type of COPD the male cadaver suffered from.

Methods

The lungs were removed from the male cadaver, still connected to the trachea and pericardial sac. Severe tissue blistering was observed along with slight discoloration. A cross-section of the lungs was examined under a dissecting microscope to reveal enlarged bronchioles, destroyed alveoli, and deposits of mucus. These lungs were compared to the lungs of a female cadaver as a control. She was in her early fifties and had a history of smoking cigarettes. Her lungs were removed from the chest, one lobe at a time, separate from the trachea and pericardial sac. Upon examining cross-sections of her lungs, her tissue exhibited tighter bronchioles and alveoli and no mucosal deposits. We also tested each cadaver for club fingers and measured their chest to see if there was any evidence of barrel chest, which is a characteristic manifestation of emphysema.

Outcomes

This examination led to the conclusion that the male cadaver presented with emphysema-dominant COPD. This is evidenced by barrel chest and degraded alveolar sacs. However, the cadaver also exhibits signs of chronic bronchitis, manifesting as mucosal deposits in the upper lobe of the lung, and clubbed fingers.

Presentation #11 Which Ride Next? Wait Times At Walt Disney World

Keith Hazen (Economics and Finance)

Faculty Mentor: Dr. Simon Condliffe (Economics and Finance)

Visitors to theme parks, generally, try to maximize the quality/number of experiences that they experience while at the park; large among these experiences are rides or attractions. For park-goers the ideal situation would be the ability to go on whatever selection/combination of rides as many times as they desired but, due to ticket pricing and consequently park attendance, park-goers face constraints on their ability to have as many experiences as they care to enjoy; namely wait times. What arises is a situation where park-goers have a budget of time in which they can have experiences in the park and a constraint, wait times, which price those experiences. Thus, since park-goers face both a 'budget' and 'prices', ride choice in a theme park parallels economic choice. Microeconomic theory suggests that items subject to economic choice become engaged in a type of competition with each other; thus, the relationships we'd expect to see in theory should manifest between attractions.

The problem this paper tries to answer is how are the wait times at a specific attraction influenced by wait times at other attractions and by other concurrent factors throughout the park. Using wait times collected from Disney's Magic Kingdom Park, multiple regression analysis is used to reveal the relationships between various rides' wait times. Through this analysis, substitution effects are revealed to be present. Moreover, patterns arise in the final models that imply that ride proximity and similarity may be factors when it comes to consumer ride choice.

Presentation #12 Splitting the Picture Plane
Julia Otto (Secondary Education)
Faculty Mentor: Dr. Amy Anderson (English)

Renowned for his studies of the visual rhetoric of comics, Scott McCloud has paved the way for several new theoretical conversations about comics and visual art as a whole. In his groundbreaking text *Understanding Comics*, McCloud builds up the theory of “The Picture Plane,” a diagram that shows the relationship between the written and visual arts (texts and images). In his diagram, he maps the shared histories of written and visual art onto a two-dimensional plane. Although McCloud’s “Picture Plane” is an innovative theory, I argue that it doesn’t account for the complexity of relationships between texts and images and the art forms that combine the two.

Although McCloud’s Picture Plane represents a range of comics styles and models the continuum from words to photographs, the Plane does not allow for sculpture, videography, or text-based genres like poetry and contemporary fiction. In the digital age, the relationships between texts and images are made even more complex by emojis, memes, and gifs. The Picture Plane does not have space for these, either. This presentation expands McCloud’s Picture Plane to open space for these and other types of compositions. Drawing on Alan Moore’s work on icon theory and Nick Sousanis’s theory of imagination as a liminal space, I will split the Picture Plane and propose a new way of visually representing the wide range of possible relationships between visual and written art forms.

Presentation #13 Oral History and Philadelphia Immigration
Bryce Evans (History)
Faculty Mentor: Dr. Charles Hardy (History)

In this presentation I will show and discuss my contributions to Philadelphia Immigration, a website built by students in combined Honors College and department of history seminars offered by Professor Charles Hardy and Janneken Smucker in spring 2018 and spring 2019. The only student to participate in both classes, I learned how to use OHMS (Oral History Metadata Synchronizer), Omeka, and other digital tools, to conduct oral history interviews. In spring 2018 I digitally indexed and curated an interview with Scottish boxer Johnny Mulligan, a city champion in the 1920s, conducted in 1982 by Dr. Hardy for his public radio documentary series *I Remember When: Times Gone but Not Forgotten*, for the Philadelphia Immigration website I then wrote a biographical sketch of Mulligan using interview excerpts and historical images. Working with four other students I used Historypin to create “Philadelphia Jobs,” an interactive map of jobs in Philadelphia between 1900-1940, that uses early 20th century images and oral histories. In the spring 2019 class we learned how to conduct oral history interviews, then interviewed recent immigrants to the city at branches of the Free Library of Philadelphia. After multiple practice sessions and audio equipment training, I interviewed Ana Maria Roldan, who migrated from Puerto Rico in 2010, then indexed and curated her interview and wrote her biographical sketch. Using different online platforms gave me a profound sense of accomplishment while being an incredible experience that taught me so much about Philadelphia history and the practice of conducting oral history research.

Presentation #14 The Complex Relationship Between Sibling Contact and Child Wellbeing in Foster Care

Julia McKernan (Social Work Graduate)

Faculty Mentor: Dr. Kerrie Ocasio (Social Work Graduate)

Introduction: This study examined the effect of sibling co-placement versus sibling separation with and without sibling visitation on integration into the adoptive family for children being referred to Pre- and Post- Adoption Counseling Services (PACS).

Methods: This study is a non-experimental, secondary analysis of 118 children through administrative data. An ANOVA was conducted comparing a categorical variable indicating sibling connections to pre-assessment continuous variables measuring the degree of risk for attachment problems in the adoptive/guardianship family.

Results: Bivariate analysis indicated a significant relationship between the adult version of the BEST scale, which measures the degree of integration a child has in the adoptive/guardianship family from the adult's perspective. Children that had contact with their siblings outside the home had lower scores on the BEST ($m=4.56$, $sd=0.47$, $p<.001$) than children that had no siblings or whose siblings lived with them ($m=4.79$, $sd=0.31$). Children who did not have contact with their siblings were not significantly different than either of the other groups, but did have more integration than children that had contact with siblings outside the home and lower integration than children that had no siblings or whose siblings all lived with them. This suggests that maintaining siblings in care together may be advantageous for their integration into the family. Further, children that have contact with siblings outside of the home may be more at risk for family problems than children that don't have contact with their siblings outside of the home, although both groups fair less well than those placed together.

Presentation #15 Identifying Foodways Of Persons with Cystic Fibrosis: Exploring A Way for Improving Health Outcomes

Michael Rossi, James Loesch (Nutrition)

Faculty Mentor: Dr. Amir Golmohamadi and Dr. Patricia Davidson (Nutrition)

Cystic Fibrosis (CF) is a multisystem inherited chronic disease of children and adults. Poor nutrition is common among CF patients, which contributes to episodes of highly specific and repetitive food selections (food jags). The objective of this project is to identify the common and most preferred foods, tastes, and textures (foodways) of CF patients through surveying children and adults experiencing CF that participate in in "gold standard" CF clinics in the Greater Philadelphia Area. Evaluation of factors that influence food choices, such as food texture (firm, tender, slimy, soft, chewy etc.), and taste (sweet, sour, bitter, savory, salty) serving method (raw or cooked), food habits, and common foods consumed is essential for developing nutritional recommendations for this population. Unfortunately, there is limited data on specific common dietary patterns in this population. There are exclusionary preferences that have direct correlation with the textural and frictional (tribological) properties of foods that can result in poor nutrition among those experiencing CF. This information provides insight for measuring the tribological properties of the most liked and disliked foods and identifying the food choices, which will be the main focus of this presentation. Understanding the factors that influence food choices and "food jags", can affect current nutritional recommendations, lead to earlier intervention, development of individualized dietary management protocols, and help in improving nutritional management of the CF population.

WORKS OF ART PRESENTATION ABSTRACT

Presentation #1 The Great Sunflower and Its Chair

Katie Lickfield (Art & Design)

Faculty Mentor: Dr. Kristopher Benedict (Art & Design)

This presentation of art shows works of what's been created last semester in Painting 1. It has sunflowers, pots, and some chairs put into it. It reflects on the color and the abstract of the creation.

Presentation #2 Original Charcoal Elephant

Katrina Berry (Art & Design)

Faculty Mentor: Dr. Patrick Winston (Art & Design)



My name is Katrina Berry and I am currently studying ecology and conservation. By creating artwork, I hope to encourage others to recognize the importance of biodiversity and inspire people to want to conserve endangered species. For most of my art pieces, my main focus is animal species. My first semester of community college, I wanted to explore some of my career options so I started taking a few art classes, including drawing. Not only was i considering majoring in art, I also wanted to sharpen up my creative skills and try a new medium. Through the use of charcoal, I have learned and developed the proper use of shadows, textures, gradation, black and white contrasts, hues, proportions, and compositions. I use 18x24 inch drawing paper for most of my pieces. These principals of design are important to produce an aesthetically pleasing piece of artwork. Charcoal is an enjoyable medium because it is messy, quick and very malleable. I have the option to smudge the charcoal with my finger tips or sharpen lines with a finely tipped pencil. I can also erase back into the drawing to create more contrast and emphasis in the piece. Additionally, this can help to add new designs and details of interest and create different shapes and forms. in result, I create harmonic, aesthetically interesting pieces of art, highlighting the variety of hues, shadows, details, contrasts and compositions of endangered animals. My main goal is to continue improving my artistic skills with every new drawing I create and encourage conservation efforts of endangered biodiversity.

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