Fall Research Day
West Chester University

Program
2 November 2016

Sykes Student Union

Organized and sponsored by the
Office of Research and Sponsored Programs
Invited Speakers

When  9:00am-10:00am  Where  Sykes Student Union Theater

Dr. Don McCown, Co-director, Center for Contemplative Studies

Mindfulness Research at WCU: An Overview of a Growing Field

Mindfulness and the mindfulness-based interventions continue to grow the evidence base that has made them ubiquitous in medicine and mental healthcare, and lately use of mindfulness has expanded to serious consideration in K-12 and higher education. WCU researchers from many different disciplines have been involved and continue to perform important work. These presentations will put attendees in the picture, through an operational definition and a first-person investigation of the practice of mindfulness meditation, followed by an overview of current research projects from around campus.

• Dr. Donald McCown (Health): A definition of mindfulness and review of the ongoing research at the WCU Center for Contemplative Studies
• Dr. Lisa Lucas (Early & Middle Grades Education): “Healthy Habits for Educators: Cultivating Presence in Teachers and Students”
• Dr. Geeta Shivde (Psychology): “Investigating the Effects of a Mindfulness Meditation Training Program on Attention in Undergraduates”
• Dr. Vipanchi Mishra (Psychology) and Jonathan Godwin: “Effects of Brief Mindfulness Training on Employment Interview Performance: an Exploratory Study”
• Brian Stanton and Dr. Sandra Kerr (Psychology): “The Effect of Mindfulness Training on Stress and Emotion in an Undergraduate Sample”

When  10:15am-11:15am  Where  Sykes Student Union Theater

Dr. Michael E. Antonio, Assistant Professor, Department of Criminal Justice,
Argyro Kalli, M.S. (candidate), Graduate Program, Department of Criminal Justice

What’s Done and What’s Next Related to Voices4Perú?

Since 2014, WCU faculty and students have worked closely with Voices4Perú (V4P), a nonprofit organization established in Ventanilla, Perú and founded specifically to address issues of social injustice, provide basic humanitarian aid, and restore hope for a better future for families and children impacted by violence and oppression. This presentation will provide a broad overview of how this relationship began and the subsequent faculty-led student research projects and social activities that have occurred during the past two years. Discussion will include findings about the effectiveness of V4P to reduce delinquent behavior and meet the complex needs of a marginalized community. Presenters also will discuss current research activities and describe developments for future research endeavors that both broaden the evaluation scope for V4P programs while simultaneously incorporating the talents and expertise from faculty and students throughout the WCU community.
Poster Presentations and Table Displays

Session 1:

When
11:30am-12:30pm

Where
Sykes Student Union Ballrooms A-C
Table Display and Demo # 1

Dr. Eleanor F. Shevlin (and students in ENG 400 including Rachel Cavotta, Rachel Ezrin, Alexis Daly, Emily Lagaza)

Presenter: faculty and students

Title: The News-Paper Wedding, Or an Advertisement for a Husband (1774): A Digital Project

Keywords: digital humanities, eighteenth-century novels, eighteenth-century newspapers and eighteenth-century new media forms re-imagined

This table-display will demonstrate the digital project focused on a 1774 British novel, The News-Paper Wedding, Or an Advertisement for a Husband (1774). Built through the collaborative efforts of the students in ENG 400: Novels, Newspapers, and Magazines as New Media and its faculty director Dr. Shevlin during the spring 2016 semester, this site offers an annotated copy of a digitized version of the novel, descriptive mapping of London places mentioned in the novel, images of original editions of The News-Paper Wedding and other novels published in 1774, and bestselling works such as Richardson’s Pamela and Haywood’s The History of Miss Betsy Thoughtless in the Singer-Mendenhall Collection at the University of Pennsylvania’s Van Pelt Library to experience and assess the material features of these 18th-century works. It aims to convey both the ways that newspapers and novels functioned as the new media of their day and the exciting ways the today’s digital media are enabling us to bring to life past eras in compelling ways. It also shows how digital tools and environments are enabling undergraduate students to accomplish research not possible previously without travel.
Table Display #2

Dr. Robert Fletcher, Jamison Ludgate, Daniel Marshall

Presenter: faculty and students

Title: Electronic Literature: Where Storytelling and Gaming Cross Paths

Keywords: digital humanities, electronic literature, gaming, interactive, non-linear fiction

This project will display the critical research and creative work of WCU English students exploring new media forms of literature. The participants worked together in “LIT 294: Topics in Digital Literature and Culture” to create both interpretive exhibits and creative works of electronic literature, that is, literary texts that are “born digital”--created to be read, played, or explored on a computer.

Critical Research: Electronic Literature Wikis

A critical analysis of professional digital works will be presented through online wikis. Our research examines the tension between the rich narrative qualities of electronic literature and the gaming elements many digital works possess. In addition, we elaborate on the relationship between feminism and e-lit gaming. Electronic literature is a relatively new field, and therefore the critical interpretation and sample works in the display will serve as an introduction that allows the audience to explore digital literature.

Research Applied; An Exploration through Twine

In this portion of the display we will show how the research done into electronic literature was then applied to produce original e-lit works. We will include several creative works from WCU students, all of which utilize a program called Twine, a text-based platform that facilitates the creation of linked, interactive stories. These works explore the medium and showcase the capabilities of digital verbal artwork. Such developments in new media are a critical part of the field of digital humanities. These experimental texts are the flip side of conventional research, applied research if you will, facilitated by hands-on creation.
POSTER PRESENTATION ABSTRACTS

EASEL #1

Dr. Gabrielle Halko, Dr. Thomas Haughey, Dr. Alison Gardiner-Shires, Dr. Lisa Lucas

Presenters: faculty

Title: Reinvigorating a Culture of Mentoring: Mentoring the University Faculty Mentoring Program

Keywords: Mentoring, Program Assessment, Participatory Research

We know what it takes to start a mentoring program, but what does it take to sustain one? At our public university, faculty are reassessing and reinvigorating our faculty mentoring program at its 10-year mark. This presentation will outline the three phases of our analysis:

Phase 1: What have we learned? This phase recaps the program’s initial development and implementation as well as lessons learned (Bean, Lucas & Hyers, 2013, Hyers & Brown 2006).

Phase 2: What does our committee do? This phase examines the crucial role of administrative support and further defines the roles of the Faculty Mentoring Committee (Committee). The co-chairs of the Committee attended the UNM Mentoring Conference in 2015 with the charge of studying current best practices in faculty mentoring. During post-conference reflection, planning and implementation, faculty formed a crucial network of pro-mentoring colleagues.

Phase 3: Where do we go from here? This final phase highlights the outcomes of Phases 1 and 2, including the inaugural Mentor Training Workshop held in May and August 2016. The Mentor Training Workshop was designed using a community-based participatory research (CBPR) model. As part of an evidence-based case study, we will present our Mentor Training Workshop and how we have successfully incorporated administrative sponsorship and cross-college networking.

Furthermore, we will share how participants at the Mentor Training Workshop collaborated in articulating the possibilities of mentoring on our campus and explored coaching strategies to enhance their mentor/mentee relationships.
Title: Exploring the History and Experiences of African-Americans at West Chester University through Textual and Material Artifacts

Keywords: African-Americans, FHG's Special Collections, Archives, George M. Phillips

A recipient of a 2016 SURI grant, I have used multiple sources in Francis Harvey Green's Special Collections to investigate the history and experiences of African-Americans at what is now West Chester University. Specifically I examined course catalogs, yearbooks, newspapers, photographs, George M. Phillips' (principal of normal school) letters, from West Chester Normal School (1871-1927), and documents from West Chester as a state teachers college (1927-1960).

It is no secret America was a segregated nation during the first half of the twentieth century, astonishingly enough, George M. Phillips recruited colored students from all over the world from 1881 to 1919. While African American, Cubans, Puerto-Ricans and other minorities were recruited to West Chester State Normal School during segregated America, they still experienced hardships and denial of opportunity from white faculty, staff and students. Often, especially in the very early years, black students were praised for their intellectual talents and more. Yet, they were also often excluded or viewed as inferior. Being barred from the swimming pool, becoming servants to their white classmates in the evening and having derogatory remarks about their race appear in the newspaper are just a few examples of the challenges these students faced.

This poster will showcase some of the fascinating discoveries my research has uncovered using literary, rhetorical and book history methodologies. Its snapshots of nearly four decades of minority student experiences at what was then West Chester Normal School. Will provide findings as well as brief analysis.
Purpose: Asthma is a chronic condition where the bronchial tubes in the lungs become inflamed, making breathing and other respiratory functioning difficult. Studies have suggested that lower oxygen saturation levels might lead to impaired performance on cognitive tasks. We examined the effect of asthma on vigilance in college age adults. We hypothesized there may be a difference between asthmatics and controls.

Methods: 84 subjects were recruited from PSY 100 classes between October 2015 and April 2016. 55 of the participants did not have asthma while 29 reported a diagnosis of mild asthma. All subjects were administered the University of Pennsylvania’s Computerized Neuropsychological Battery (CNB, Gur et al, 2009). Data from subtest, the Short Penn Continuous Performance Test-Number and Letter Version (CPT) was analyzed to measure visual attention and vigilance.

Results: We analyzed data using SPSS version 22. The sample consisted of 84 college students who were 19 years old (SD= 1.67 ) and with 11 years of education (SD=3.64). There were no significant differences between participants with asthma and controls for accuracy or speed on this task [(t)(81)=-1.30,p=.89].

Discussion: These results are not unexpected since most of past studies that found cognitive deficits in persons with asthma included populations with poorly controlled asthma or severe asthma. In this sample of healthy undergraduates, there were no group differences in sustained attention. A future direction for our research would be to include asthma control differences to examine its impact on attention performance.
Title: Voices4Perú and the Communities it Serves: A Tale of Three Regions

Keywords: Peru, Adolescents, Crime, Community

The purpose of this study was to evaluate the effectiveness of the Voices4Perú (V4P) organization. V4P is a charitable, non-governmental organization located in Ventanilla (Peru) which sponsors various programs that support children and adolescents who are at risk for victimization and criminal involvement.

The present analysis included examining findings gathered from in-depth interviews with 90 families/households selected from three district regions comprising the Ventanilla community. A non-probability sampling design, including a convenience sampling strategy, was employed throughout this research study. Each face-to-face interview addressed pre-written and standard questioning that was a mix of closed and open-ended lines of inquiry. In total, 140 residents (including adults and children) were interviewed during this study. Each interview lasted approximately 45 minutes.

For the open-ended questions, a content analysis of the narrative responses was performed and the responses were quantified and coded into main themes for comparison and bivariate analysis. All empirical analyses were performed using the statistical software program, SPSS.

Overall, high level findings indicated region-specific variations about perceptions of the V4P organization. For example, narrative responses among families/residents revealed beliefs about an inconsistent recruitment strategy; feels for being excluded or isolated; and organizational practices facilitating a rivalry between the families/residents of Ventanilla. Findings from this study will benefit future developments of V4P, including shedding new insight for how the Ventanilla community perceives the organization, and may offer guidance for adjusting current practices and policies designed to better meet the needs of the residents of Ventanilla.
School counselors work with students daily to support them through social-emotional obstacles and help them develop coping strategies and resiliency. Bullying behaviors, especially cyberbullying, have increased in the past decade along with the development of new technologies and social media outlets that make it easier for students to exhibit relational aggression against their peers with a certain level of anonymity (Chapin, 2016; Icellioglu & Ozden, 2013; Meyers, 2016).

The purpose of this qualitative study was to determine the school counselor’s role in addressing and intervening in bullying behaviors. Results from participant interviews present themes in bullying behaviors as experienced by school counselors in the field. School counselors throughout suburban southeastern Pennsylvania report high incidence of cyber bullying and relational aggression. Counselors shared their role in implementing prevention and intervention strategies for dealing with bullying behaviors in the school. A major theme from participant responses revealed the prevalence of Positive Behavior Support programs. Participants recommend strategies for Counselor Education programs to better prepare future school counselors to prevent bullying behaviors.
The career of School Counseling is comprised of individuals who attempt to impact students through academic, social-emotional, and developmental interventions provided in small-group instruction or individual counseling (American School Counselor Association, 2013). These individuals serve great purposes within the setting of schools and education and seek to provide high-quality services to their student populations.

The field of School Counseling is predominately populated by women and is considered an atypical choice of career for men. Of the 11,614 School Counseling degrees conferred in 2013-2014, 18% of the degrees were received by men (National Center for Education Statistics, 2015). It is important to understand why there are so few men entering the field as school counselors, and the factors affecting this decision. A literature review concluded that male gender roles, gender stereotypes, male socialization, and wage discrepancies between traditional and nontraditional careers are potential mitigating factors for this disproportionate ratio. Additionally, the males who work in the School Counseling field are faced with career-specific and gender-related challenges.

Lastly, the literature review concluded that males have specific gender-related advantages and disadvantages. Implications include understanding the extent that gender role expectations might be influencing male’s decisions to enter the School Counseling profession. Recommendations for Counselor Educators and Supervisors who work with male School Counselors are presented.
There are predictable times of transition for students as they enter and exit their college experience. High school counselors and student affairs educators invest significant time assisting students with this important transition. Another important moment for students is graduation from college. Much less focus and time is spent assisting students with this transition.

As students enter their senior year of college, their emphasis is often on career development activities and in finding employment or continuing on to graduate/professional school. In researching and applying three theories (Emerging Adulthood, Baxter-Magolda's Theory of Self-Authorship and Brofrenbrenner’s Ecological Systems Theory), we can begin to understand the transitions occurring for graduating seniors and suggest interventions that both challenge them to prepare for transition and support them in their efforts.

This poster will present information on all three theories and provide suggestions and best practices for implementing services, supports, interventions, programs and policies that will assist in a successful transition for college seniors as they graduate.
A research study is currently underway that is measuring the effects of post-baccalaureate pre-service teachers’ participation in a stress reduction workshop, titled, Healthy Habits for Educators. The primary goal of this study is to determine if participation in the Healthy Habits for Educators workshop will reduce the participants stress level. The study is a mixed methods design involving a treatment and a control group. Participants were recruited from the early and middle grades post-baccalaureate program.

The workshop consisted of a 1-day intensive seminar on stress reduction strategies followed with bi-weekly stress reduction reminders. The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) a 14-item self-Report instrument is being used to measure the extent to which individuals perceive experienced events as stressful. Qualitative data is also being collected. Participants are completing anonymous questionnaires at two intervals: October 2016, and March 2017. Three primary questions will be asked:

1. Are you incorporating any of the strategies that you learned at the workshop in your daily life? If so, describe.
2. Have you modified the strategies in any way, if so describe.
3. What will you commit to do in the next 3 months to routinize some of the strategies you learned at the workshop?

The discussion will focus on triggers that students realized led to reactivity and the students will share strategies that they learned during the workshop designed to promote skillful ways to respond to difficult emotions.
Dr. Jade Burris

Presenter: faculty

Title: Syncing with families: Using iPads to engage families in the real time learning of their children

Keywords: Early Childhood Education, Strategies for engaging families, Technology use by preschool teachers, iPad applications

Four early childcare programs in Pennsylvania adopted the use of iPads to engage families of young children in their children’s learning and development. Teachers in preschool classrooms were given iPads to document the process of learning, interactions with learning materials, and participation in planned and unplanned activities. These images were linked to the appropriate learning standards, tied to the child’s individual goals, and connected to the weekly curriculum for the classroom.

Families use a website or mobile application to access the information about their child and receive mobile alerts regarding the updates add by the teacher. This study focuses on the goals and planning of these practices and was conducted through interviews with the program directors as a first step in large study on family engagement strategies. Overall, this use of technology has been effective as an innovative strategy to engage families in the real time learning of their children.
This exploratory research project was designed to explore the effects of animal-assisted activities (AAA) on children with autism spectrum disorders (ASD) from the perspective of parents. An AAA includes the deliberate inclusion of a non-human animal in an intervention to enhance client outcomes. The goal of this research project is to use insights from parents in this first phase to inform the design of the second phase in which we plan to measure child outcomes.

We conducted 10 in-depth, in-person interviews with the parents of children receiving AAA from a licensed provider in Chester County, Pennsylvania. These 60 to 90 minute interviews followed a loose interview guide to allow for parents to discuss, in detail, their experiences. Interviews were digitally recorded, transcribed, and analyzed.

Parents reported that AAA had two main effects on their children. One, it had positive effects on their children’s anxiety levels and their ability to tolerate frustration. Two, AAA increased children’s willingness to physically engage, to be verbal, and to make eye contact. One parent explained, “she is more accepting of the unwanted behavior of the animal than she is of the unwanted behavior of humans.” Echoing this, another shared, “If the animal isn’t meeting her expectation, she seems to manage that much better than a human interaction.”

From the perspective of parents, AAAs can have significantly positive effects on children with ASD. These encouraging results suggest the need for further studies given the increasing prevalence of this disorder and the demand for efficacious practices.
To conduct our research, we will be holding six (6) 60-minute group counseling sessions over a fifteen (15)- week period with West Chester University’s Women’s Softball Team. The population consists of Twenty-four (24) team members of different ages and academic status. In each session, personal stories are shared, small group activities are conducted, and open group discussions take place. The purpose is to see which factors impact team cohesiveness and dynamic. We will measure these factors by looking at communication barriers, personality differences, and conflict resolution skills. The methods we will be using to collect our data will be observation, feedback from the team, and surveys (pre/post). Although our research will not be fully completed until the end of the semester, our results from last semester, which we hope to present in conjunction with our ongoing research, include the following:

1.) Time spent outside of softball obligations – 44 % increase
2.) Believe the structure of the team is fair- 23% increase
3.) Feeling as if they are a part of the team- 12% increase

We predict the group cohesion level of the WCU Women’s Softball Team will increase with the help of these group sessions.
Dr. Dawn R. Patterson, Dr. Christy Hicks

Presenter: faculty

Title: Preparing Teacher Candidates to Provide a High-quality, Rigorous Education for Students with Severe Disabilities

Keywords: Teacher Preparation, Special Education P-12, Applied Course Work

In this poster presentation, participants will learn about the efforts of two presenters who collaborate to ensure rigor in a senior level special education methods course. The presenters will share details and data about the results of their efforts.

Providing teacher candidates with rigorous coursework produces well prepared special education teachers, recognized as professionals (Connelly & Rosenberg, 2009), especially as it relates to P-12 students with moderate and severe disabilities. Employing the conceptual framework comprising (a) knowledgeable professionalism, (b) reflective teaching, and (c) collaborative leadership (Fueyo, Koorland, & Rasch, 2008) the presenters developed coursework targeting each of these themes.

This presentation will discuss the objectives and format of a senior level course at a teaching-focused university that successfully combines content, content delivery strategies, field experiences, and project-based assignments that prepare special education teacher candidates for the classroom.
Joshua Barreiro

Presenter: student

Faculty Mentor: Dr. Melissa Whidden

Title: The Effect Range of Motion in Resistance Training has on Muscular Strength & Hypertrophy: A Systematic Review

Keywords: skeletal muscular, hypertrophy, resistance training, range of motion

Background
Maximizing strength and hypertrophy is an important part of resistance training (RT) exercise program design. It is typically achieved via the manipulation of several exercise programming variables such as, volume load, intensity, frequency, rest times, exercise selection and order. One variable in particular is often over looked and may have a significant impact on the strength and hypertrophic response to the exercise program is, range of motion (ROM). ROM refers to the distance and direction a joint has traveled between the flexed position of the movement to the extended position of the movement.

Objective
The aim of this systematic review to determine whether ROM had a significant impact on the strength and hypertrophic response to RT in healthy adult populations.

Methods
Studies were identified from searches of relevant databases and study reference list. Inclusion criteria for studies were (1) an experimental trial published in a refereed journal; (2) compared varying ROMs; (3) measured strength and/or hypertrophy outcomes; (4) used healthy adult human subjects, and (4) included baseline performance or a non-training control group.

Results
Results indicate that exercises performed with a full ROM may result in an improved hypertrophic and strength response in untrained healthy adult human populations.

Conclusions
While, based on current data, the results of ROM on muscular strength and hypertrophy seem to be generally unclear, based off our analysis of the literature we find that performing greater ROM exercise movements are generally safe and may possibly be superior to smaller ROM exercise movements.
Title: Seasonal differences of heavy metal concentrations in leachate

Keywords: Source-contribution, leachate, heavy metals, seasonal differences

Background
The purpose of this exploratory study is to determine if there are any statistically-significant seasonal differences in the concentration of heavy metals that are found in leachate. We aim to evaluate the correlation between metal concentrations and precipitation, in order to predict peak-flow concentrations in leachate. With changing climatic conditions related to rainfall patterns in Pennsylvania, the variability in source-contribution to a landfill presents challenges for the waste management department in terms of resource allocation for appropriate leachate treatment techniques. The results of this study can shed some light on the expected seasonal variability of heavy metal concentrations in leachate.

Methods
Untreated and semi-treated leachate samples are collected from a municipal solid waste landfill. The samples are then preserved, prepared, and analyzed in the laboratory following the EPA’s Methods for Chemical Analysis of Water and Wastes. Five heavy metals - iron, manganese, chromium, barium, and zinc - are targeted for investigation using an atomic absorption spectrometer (AAS).

Results
Preliminary results show that there is a high concentration of iron in our leachate samples. This high concentration of iron surpasses the EPA’s drinking water standards.

Conclusion
Based on the first set of analysis, it is evident that heavy metals are in measurable concentrations in the study samples. Presence of certain metals beyond the safe drinking water standards further justifies the effort to understand the loading variability of these metals in our wastewater discharges, as these discharges can potentially contaminate our source-waters when released in the environment.
Neuromuscular fatigue (NF) is a failure to maintain proper muscle force essential to completing the task at hand. The effects resulting from NF differ between bilateral and unilateral tasks and limb dominance probably plays a role in unilateral NF.

PURPOSE: To analyze the unilateral NF differences between dominant and non-dominant limbs of novice and experienced exercisers.

METHODS: Ten college age men were separated into two groups: novice, less than 6 months of experience, and experienced, 18 months or more of resistance training experience. Muscle activity of the clavicular head (CH) and sternal head (SH) of the pectoralis major as well as the rectus femoris (RF) and vastus lateralis (VL) were examined through surface electromyography. Subjects were tested for one repetition max (1RM), fatigued at 60% of 1RM using a fatiguing protocol, then retested at 1RM value.

RESULTS: No statistically significant differences (P ≤ 0.05) were observed across the two groups. However, data showed differences in muscle activity. In the dominant leg RF, experienced individuals displayed an increase of peak µV (102.73 ± 239.18 µV) while novice individuals displayed a decrease (222.57 ± 282.31 µV). Additionally, novice individuals displayed a decrease of average µV (91.32 ± 97.15 µV) in the SH of the ND limb whereas, experienced individuals displayed an increase (10.30 ± 109.06 µV).

CONCLUSIONS: Experienced resistance trainers dominant limbs display different neuromuscular activation patterns than novice trainers. With resistance training, fatigue effects may be handled differently within the muscle suggesting that muscle activation patterns may develop over time.
Regular physical activity is linked to improved cardiovascular (CV) health. High intensity interval training (HIIT) is a type of CV exercise that involves interchanging intervals of high intensity exercise (usually 80-100% of maximum heart rate) with lower intensity recovery periods.

PURPOSE: The purpose of this study was to assess the effect of a six-week HIIT program on modifiable cardiovascular disease (CVD) risk factors.

METHODS: Total cholesterol (TC), high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, fasting plasma glucose (FPG), blood pressure (BP), resting heart rate (RHR), and body fat percentage (BF %) were assessed before, halfway through, and after the six-week program in nine sedentary young adults. Subjects performed three sessions per week for six weeks at a work-to-rest (W:R) ratio of 1:4, where they were required to sprint and walk.

RESULTS: There was a significant increase in FPG from the pre-program to the post-program assessment ($P=0.03$). There was also a significant decrease in diastolic BP (DBP) ($P=0.03$) and RHR ($P=0.04$) from the pre-program to post-program assessment.

CONCLUSIONS: These data suggest that HIIT is effective in significantly reducing DBP and RHR. However, a six-week, 18 session HIIT program at a 1:4 W:R ratio may not be effective for reducing the risk for CVD through idealizing blood lipids, SBP, body composition, or anthropometry measurements in this population. This study contributes to the necessity to find an optimal HIIT program length, training session duration, and W:R ratio to help establish the most advantageous training program to reduce the risk of CVD.
Nursing education programs are experiencing the effects of a faculty shortage. Administrators are challenged to find clinical faculty; as a result, there has been a dramatic increase in the number of adjunct faculty employed in nursing education programs. At the same time the call for quality in higher education has become more pronounced with an expectation for excellence outlined by President Obama and the development of college scorecards. Quality assurance is the examination of higher education practices that allow administrators and faculty to safeguard academic standards. Accreditation is one method by which administrators can demonstrate quality assurance to stakeholders.

This descriptive exploratory study examined the methods by which administrators evaluate adjunct clinical faculty and how the data are used. Administrators from CCNE and Middle States Commission on Higher Education undergraduate baccalaureate programs report that the most common method of evaluation was student evaluations, however, most noted this to be less than optimal. Administrators identified the primary use of evaluations included rehiring decisions. A concise process for the evaluation of adjunct clinical faculty was not identified and the research revealed issues in the process.
Weidman, Twale, and Stein’s (2001) Conceptualizing Graduate and Professional Student Socialization describes doctoral students’ transformation from prospective student to novice professional/practitioner. Multiple experiences and communities influence this transformation. Previous studies have investigated socialization by focusing on research-based or full-time programs, leaving the professional or practitioner-based programs and students understudied.

Professional/practitioner-based doctoral programs like the Doctor of Nursing Practice (DNP) represent a student population that continues to increase and include previously underrepresented student types (e.g., part-time status, women, and older students). The purpose of this study was to explore the graduate socialization in a newly implemented DNP program. This qualitative study followed a phenomenological design and included a sample of 13 DNP students. Through interviews, the DNP students described their transition from prospective student to novice professional/practitioner.

Findings from this study contribute to the specific understanding of this growing and understudied student population while providing practice implications for higher education professionals who serve this population. This includes a discussion of how the American Association of Colleges of Nursing’s (AACN) “Essentials of Doctoral Education for Advanced Nursing Practice” describe the socialization experience of a DNP Students. Because socialization is a continuous and non-monolithic process throughout the program, the experiences of the students in this study are not representative of all eight essentials due to the limitations of the sample; however three of the essentials emerged in this study: organizational & systems leadership for quality improvement, clinical scholarship & analytical methods for evidence-based practice, and health care policy for advocacy in health care.
Purpose
Older adults with mild cognitive impairment (MCI) and early-stage dementia have an increased risk of falling, with risks to their health and quality of life. The purpose of this integrative review was to evaluate current evidence on fall risk and gait characteristics in this population.

Methods
An integrative review was conducted using four databases with search terms falls, accidental falls, gait, Alzheimer's disease, and mild cognitive impairment. Inclusion criteria were original research, published in English between years 2005 to 2015. Fifteen studies met sampling criteria. Methods were reviewed and fall risk evaluation using single tasks and dual task conditions (DTC) were found to be the current methodology.

Results
Reporting studies that examined gait characteristics under DTC, studies used tasks that varied in cognitive complexity (naming animals, counting backward by 1, or by 7s from 100). Results from DTC studies found that gait speed declined and variability increased (step length, step width, variability) during the DTC. When comparing two different DTC, gait speed declined more with naming of animals and that difference persisted over the 2 year follow up. When subjects with MCI were categorized by subtype (amnestic and non-amnestic), those with amnestic MCI (greater memory loss) had significantly slower gait speed and demonstrated the greatest declines in gait speed under 3 different DTC.

Conclusion
Older adults with MCI demonstrate slower gait speed and greater gait variability (irregular patterns) which contributes to the increased risk for falls. Fall risk evaluation may be most accurate using dual task conditions.
Health care in a global community affects all health care workers. Cultural competence and cultural humility is a required competency/excellence in daily nursing practice. Advances in communication and transport allow people from other countries to dwell here or nursing students and seasoned professionals to travel to other countries to learn their culture and health care practices. Diversity is to be respected and appreciated in all contexts. Study abroad programs give students understanding about cultural and health care practices in a different setting. Strategic partnerships with Universities and communities can foster several learning opportunities to understand population based health disparities. This exposure may transform their attitudes and appreciation for the people of the global community, both here and elsewhere.

Two faculty and 10 students from the College of Health Sciences at West Chester University of PA plan to experience three distinct cultures and subcultures during winter 2016. In addition to exposure to different culture, languages and ethnic food, the students gained firsthand knowledge about several modalities of health care. In addition experience at a holistic clinic for HIV-AIDS patients gave a different perspective to the students. The cultural exchange and exposure to the rich religious - political–social system in India might have influenced the emerging professionals with better understanding of the contexts of diverse population.
This quasi-experimental study used a pre-test and post-test design approach to determine the affect a 10-week introductory nutrition course had on dietary intake of students who completed the course, whether the course influenced students’ mean social cognitive theory construct scores, whether the course influenced students’ mean fruit, vegetable, and fiber intake, and examined if there was a relationship between mean social cognitive theory construct scores and dietary intake. While weight gain and poor eating habits and behaviors have been identified as common undertakings by college students, little is known about the effectiveness of dietary behavior change among college students after the completion of an introductory nutrition course.

Dietary behavior change interventions rooted in Social Cognitive Theory (SCT) have been shown to have one of the greatest impacts on changing dietary behaviors among college students. The 10-week introductory nutrition course in this study included a dietary behavior change intervention that was rooted in SCT, making it desirable to elicit dietary behavior change. Two introductory nutrition course sections (NTD 303 (01) & NTD 303 (02)) were employed for this study, which was carried out in the spring semester, 2016.

It was the researcher’s hope that the results of this study would highlight the importance of making an introductory nutrition course with a dietary behavior change intervention, modeled after the SCT, a mandatory component of the undergraduate college curriculum in order to improve college students’ dietary intake, habits, behaviors, and beliefs.
Lunch and Faculty/Student Led Research Information Session for Students

Panelists:  Dr. Xin Fan, Dr. Cheryl Neale-McFall, Becky Ross, Warren Harding, Elizabeth Raymond, Kelly Kozell

When
12:40pm-1:40pm

Where
Sykes Student Union Ballroom C

Featuring
A panel discussion involving students and faculty discussing the importance of engaging in research at WCU. Panelists will discuss their experiences at WCU and how students can seek research and scholarship options.
Poster Presentations
Session 2:

When
1:50pm-2:50pm

Where
Sykes Student Union Ballrooms A-C
Archaeology at the Allee House, Bombay Hook National Wildlife Refuge

Keywords: Archaeology, Analysis of artifacts, 17th Century Historical Home, Allee House, National Parks Service Project

The Allee House is located on the Delaware Bay in the Bombay Hook National Wildlife Refuge. It was erected in 1753 by John Allee, the son of a French refugee escaping punishment for practicing Calvinism. The house was sold to the US Government in 1962 after ownership through three families. It has been on the National Register of Historic Places since 1971.

Archaeological research has recently been undertaken at the site to fulfill Federal Section 101 requirements due to structural renovations being done on the house by the National Historic Preservation Training Program. Test excavations have been conducted around the house foundation and the immediate yard areas were shovel test pit surveyed. This fieldwork yielded almost 4,000 artifacts, the analysis of which is the focus of this presentation. Mean Ceramic Dates reveal two locations along the foundation that indicate structural modifications probably conducted on the house in the late 18th century. Implementing South’s functional analysis of artifacts also indicates spatial and temporal differences in yard area usage.

Work is currently ongoing to record the artifacts into the ReDiscovery, a collections and field management software system.
Title: Leaf physiology as an indicator of reforestation potential: A study of Liriodendron tulipifera and Quercus alba

Keywords: Leaf physiology, Anthropogenic modification, Forest succession, Restoration ecology

Approximately half the world’s forest cover has been lost to forest degradation and deforestation over the past century. Forests provide ecosystem services essential for sustained life on the planet, but anthropogenic forest modification continues. Forest loss beckons the scientific community for improved reforestation techniques that quickly restore fully functioning forests providing high quality ecosystem services.

Toward this end, a long-term reforestation experiment was established at the Mount Cuba Center in Hockessin, DE to study different restoration techniques. At this site, physiological parameters were measured in two planted tree species (Liriodendron tulipifera and Quercus alba) with contrasting life history characteristics to assess the suitability of these species for local reforestation. Measurements of photosynthesis, transpiration, water use efficiency (WUE), and specific leaf area (SLA) were made across the 2016 growing season. Photosynthesis, transpiration, and SLA were significantly greater in L. tulipifera than in Q. alba. Seasonal differences existed for all four physiological parameters; photosynthesis and transpiration significantly increased late in the growing season, while WUE and SLA significantly decreased. Historically dry summer conditions did not negatively impact either species’ productivity, suggesting a higher tolerance to dry soil conditions and full sun exposure than was expected for both species of tree saplings.

These findings indicate a high potential for success in reforestation efforts consistent with those being implemented by the Mount Cuba Center.
Antibiotic resistant bacteria pose a serious health risk and are an area of concern regarding public health. *Staphylococcus aureus*, a Gram-positive bacterium, is a common commensal bacterium found on human skin. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain that has evolved resistance to many antibiotics currently available. Although these bacteria are typically associated with health care settings, they are present in many environments.

Fire fighters responding to emergency situations come in contact with the public, many of which are wounded, elderly, and potentially immunocompromised. In an effort to reduce the MRSA prevalence in firefighting gear, blue light is proposed as a treatment against MRSA. Blue light is in the wavelength range of 405-470nm and acts as an antimicrobial method to reduce or completely eradicate bacterial populations. Bacterial samples were collected from complete sets of firefighting gear, samples were cultured and analyzed for methicillin resistance and further screened for the presence of resistance gene. MRSA detection frequency varied among sample gears, but with a generally high prevalence. Blue light was then exposed to gear that contained a significant amount of MRSA and other bacteria. A significant decrease was observed in overall bacterial abundance after exposure to blue light.

Our results suggested that exposure to blue light treatment could be used as a potential method to reduce the MRSA concentration in fire fighter gears.
The fast and accurate detection of heavy metal ions is critical to water and food safety. In this study, various surface modified fluorescent gold nanoparticles (FGNPs) were prepared and their potential as a sensor array for heavy metal ion detection were evaluated. The surface of the nanoparticles was capped with glutathione, Bovine Serum Albumin (BSA), or poly-methyl acrylate sodium salt.

Depending on the preparation methods, the nanoparticles emitted fluorescent light in the wavelength range between 614 nm and 725 nm. Among those FGNPs, BSA-capped fluorescent gold nanoparticles (BSA-FGNPs) displayed the highest quantum yield with an emission maximum at 712 nm. In the presence of trace amount of heavy metal ions such as Pb^{2+}, Ag^{+}, and Hg^{2+}, the fluorescent emission of the FGNPs sensors were altered. Depending on the surface ligands and the nature of the ions, the fluorescent signals were either quenched, enhanced, or shifted to a longer wavelength. The emission patterns displayed by the sensor array enabled the identification of specific heavy metal ions. The signal of the sensors did not respond to non-toxic metal ions such as Na^{+}, K^{+}, and Mg^{2+}. 
Title: Solid Phase Extraction and Chromatography Analysis of Plant Pigments

Keywords: Plant Extract Characterization, Chromatography, Solid Phase Extraction, Solar Energy

This study aims to characterize the plant pigments that can be used to harvest solar energy. Natural pigments were extracted from various plants such as grass leaves and flower petals. The pigments were purified with solid phase extraction (SPE) and characterized by UV-vis absorption spectroscopy, paper chromatography, thin layer chromatography (TLC), and high performance liquid chromatography (HPLC). We looked at various species of grass (Kentucky Blue, Perennial Rye, and Tall Fescue) as well as several flower species (Red bud, Cherry Blossom, and Peony).

Our results found that the grasses contained varying amounts of Chlorophyll a, b & Pheophytin a, while the flowers contained multiple anthocyanins such as Pelargonidin and Cyanidin. The plant pigments were used to construct dye-sensitized solar cells (DSSCs). The correlations between the composition of plant pigments and the power output of DSSCs was investigated.
Ink analysis, when required in forensic cases, is generally conducted to determine the source of ink or to determine the age of the writing. For both these purposes, the different components of inks are distinguished by using chromatographic techniques. Each ink has a combination of dyes, solvents and additives that are proprietary.

One of the most widely accepted methods for comparing inks is thin layer chromatography (TLC). This is used to visually compare the pattern of bands obtained for each ink. Inks can be distinguished by order of bands, number and color of bands. However, the chemical identity of the bands cannot be obtained by TLC alone. Recent developments in forensic science call for more information beyond visual comparison. Pattern comparison analyses should be accompanied by confirmatory studies that give unambiguous identification. This aim of the project to improve current TLC methods of ink analysis.

In this experiment, five blue ballpoint ink pens were compared using High Performance Thin Layer Chromatography – Mass Spectrometry (HPTLC-MS). HPTLC has been demonstrated to give better discrimination than TLC. The silica gel coating in HPTLC has finer particle size, which explains the increase in resolution of band separation. With the improved resolution, mass spectrometry can be used to identify the chemical structure of the separated components. Coupling planar chromatography to mass spectrometry is a fairly new technique and has not been applied to ink analysis before.

Our study will benefit forensic document examination studies by adding confirmation to the pattern studies.
EASEL #28

Dr. Richard Burns

Presenter: faculty

Title: Helping Sight-Impaired Individuals Understand Information Graphics

Keywords: Computer Science, Information Graphics, Accessibility

The purpose of this project is to gather high-level messages from pie charts, line graphs, and bar charts and communicating it to the user. The high-level messages express ideas and patterns that would not otherwise be ascertained by lower-level data and can help convey grander meanings from the images. This is done by using a trained network to break down and categorize lower-level data in order to hypothesize what the most likely message being conveyed is. Lower-level data are certain characteristics such as colors or the prominence of a single slice which help more accurately place the data into the network.

Our current work is expanding a Bayesian network, which is often employed in Artificial Intelligence problems, that automatically identifies the most likely high-level message of a pie chart. One application for this work is assisting a sight-impaired user, who cannot see the graphic, by transforming the high-level message of a pie chart into an accessible form.
Title: Investigation in the ways in which pre-service and in-service teachers perceive the Common Core Mathematical Practices

Keywords: Mathematics Instruction

This study addressed Heck et. al’s recommendation by focusing on one aspect of mathematics teacher understanding of the Mathematics Practice Standards, specifically the transition from pre-service to novice teacher. As university mathematics educators, this is of particular interest in how to support our pre-service teacher’s perceptions and implementation of the standards. We are also interested in what experiences during their initial experiences as an in-service teacher serve to align or contradict their experiences during their teacher preparation program. Our hope was that insight into this area would help us build learning opportunities for our pre-service teachers to support their implementation of the Mathematics Practice Standards.

The data collected for the study was collected in two stages. The first consisted of a questionnaire that asked pre-service teachers to examine the Mathematics Practice Standards and choose what they perceived to be the most and least critical. Participants were then asked to support their rankings. Over a period of three years, 104 pre-service teachers completed the first stage of data collection. The next stage of data collections consisted of identifying a subgroup of these teachers that had graduated and were currently teaching mathematics on the k-12 level. These in-service teachers were interviewed, asked to reflect on their response from the prior stage of data collection during their time as a pre-service teacher. The teachers were also asked to elaborate on experiences that they had had in their professional work that had influenced their current perceptions of the practice standards.
A model, based on relevant previous work, is being developed that simulates the dorsal closure process, a stage of Drosophila embryogenesis. The apical side of the amnioserosa (a cell monolayer-wound like region on the surface of the embryo) is being represented through polygonal two dimensional representations of cells, with forces acting on their edges and nodes. Those forces are being regulated by the action of actin and myosin. The model is granular enough so various sub regions can be studied to the level of the individual cell. Various equations are being tested, describing the evolution of forces generated by the action of the actomyosin network, which itself might be biochemically driven. Eventually, the model may be used to understand mechanisms of dorsal closure that are not easily analyzed in the lab or produce simulation results that might drive new experiments.
Dr. Chuan Li, Cameron Campbell, Stacy Porten-Willson

Presenter: faculty and students

Title: A matched Alternative Direction Interface (ADI) method for solving parabolic interface problems

Interface problems are a large class of problems that study the change of a physical quantity in Physics, Biology, Engineering or Materials, such as heat or electrostatic potential, as it propagates across a material interface. Due to the irregularly shaped interface, solutions to interface problems can only be found numerically. However, for the very same reason, classical numerical methods cannot deliver accurate estimations, or may fail entirely. A new numerical method is necessary for solving interface problems efficiently and accurately. In this project, we present our recent study of a well-tuned matched Alternative Direction Interface (ADI) method for solving two-dimensional interface problems with the most general of physical interface jump conditions. We also plan to present our recent improvements on the efficiency, accuracy, and stability of the proposed method.
Joshua M. Carlson, Kevin Mack-Fisher

Presenter: students

Faculty Mentor: Dr. Shawn H. Pfeil, Dr. Kurt Kolasinski

Title: A Colloidal Lithography and Catalyzed Growth Approach to Semiconducting Nanowire Sensors

Keywords: Biological Physics, Nanoscience, Self-Assembly, Surface Chemistry

Semiconducting nanowires present an attractive candidate for biological sensors due to their large area to volume ratios, and corresponding large change in optical and electrical properties upon ligand binding. Here we present a fabrication scheme and preliminary data on the production of ordered arrays of nanowires, on substrates suitable for integration into optical devices, via a combination of colloidal lithography and catalyzed growth. Targeted materials include both oxides and sulfides of Co, Fe, Cu and Zn. This protocol has the advantage of creating nano-patterned devices without the need for e-beam or DUV lithography. Furthermore, by growing nanowires on optically distinguishable seeds, this protocol has the potential to allow the measurement of both the properties of individual nanowires and the ensemble.
An intergenerational learning program can facilitate informational exchange across generations, gender, and ethnic groups. In the past, intergenerational learning, an exchange of information between young and old occurred on a regular basis, generally within the family. However, in contemporary societies age segregation has increased. Intergenerational exchanges have become less common.

This presentation focuses on a discussion of an ongoing intergenerational learning and mentoring program which increases age, ethnic, and cultural awareness and combats ageism. Participants in the project include students, both graduate and undergraduate, and a diverse group of older men and women. The learning and mentoring project focuses on the outcomes of participation in the program.

As part of the World Health Organizations consortium of age friendly cities and communities focus on civic engagement and the AARP Livable Communities, this project brought together younger and older adults who volunteered to meet for one semester. They held discussions about health, work, social integration, free time activities, and stress and time management. Primary goals for the project involved the facilitation of meaningful exchange across the generations, learning about the past and the present, and reducing ageism.

The project facilitates the exchange of values, beliefs, and perceptions across the generations and across cultural groups. Studies have indicated that inter-generational mentoring and learning can lead to improved attitudes toward both older and younger adults. With the growth of the older adult population, it becomes increasingly important to promote an understanding and appreciation of the contributions of people of all ages and backgrounds.
EASEL #34

Ryan Dougherty, Nicole Philion

Presenter: students

Faculty Advisor: Dr. Michael A. Di Giovine

Title: Culinary Tourism and Localism in Central Italy

Keywords: Study Abroad, Restaurant Culture, Tourism, Local vs Non Local Foods, “What is considered Local”

This poster presents the results of research on culinary tourism and localism undertaken as part of WCU’s ethnographic field school in Perugia, Italy, in which we conducted participant observation, interviews, and visual documentation at marketplaces, vineyards, restaurants, cafes and truffle hunting destinations. It argues that culinary tourism in Perugia is based on the notion of localism, established by both local organic food producers and consumers as well as by larger political units, and disseminated through word-of-mouth in marketplaces, restaurants, and larger events such as the Cantine Aperte wine festival. Yet what constitutes being “local” is often complex and varied based on the ideologies and practices of different farmers, truffle hunters, wine makers, restaurateurs, and agritourism owners.

The poster presents a number of these different perspectives. In addition, we will discuss the benefits and challenges of doing fieldwork through a study abroad program—in particular the “productive tensions” that emerge through our confrontations with ethnocentrism.
Title: Evaluating the Impact of Academic Success Workshops on First Semester Freshmen in the Achieve! Program

Keywords: Academic Success Workshops, First year students, Achieve! Program, Learning outcomes

The purpose of this research project was to evaluate the academic and personal impact of attendance at Academic Success Workshops (ASWs) on first semester freshmen who are in the Achieve! Program and required to attend at least three different workshops during their first three months on campus.

I hypothesized students who attended the Academic Success Workshops during the three month time frame would experience greater feelings of preparedness, academic confidence, and reduced stress. Using a survey, interviews, and observation, the research looked to find connections between goals for this requirement and outcomes and conclusions reported by the students. In addition, the research collected provided feedback to help improve the ASWs for future semesters.
Oral Presentation Session

When
3:00pm—4:00pm

Where
Sykes Room 209
Oral Presentation Abstracts

Presentation #1

Haleigh Besecker

Presenter: student

Faculty Mentor: Dr. Elizabeth Munz

Title: Raising sons and daughters: Messages for parents in Parents Magazine

Key Words: parenting, gender, media, content analysis

The purpose of this project was to examine childhood gender expectations and stereotypes in Parents Magazine which is the top subscribing parenting magazine. Four articles were selected from May issues of Parents magazine for each decade from the 1930’s through the 2000’s. All of these articles were obtained from the archives of the Francis Harvey Green Library at West Chester University and this project was completed as part of the Summer Undergraduate Research Institute (SURI).

From each issue, the researchers read and content analyzed four articles including a recurring article series focused on child development. The articles were examined for the gender expectations and stereotypes implicitly or explicitly stated in the text of the article.

Findings suggest that gender stereotypes have remained prevalent across decades of Parents Magazine although issues in recent decades have added the use of gender neutral language and more inclusive expectations.
Sexual violence is a nation-wide epidemic that unfortunately affects many students enrolled in higher education. Students at West Chester University are no exception. The university addresses these incidents by sending out messages about education, training, and prevention, but the continuing assaults show there is a clear breakdown in communication with students. My research uses Chaim Perelman and Lucie Olbrechts-Tyteca’s theory of the “universal audience” to highlight gaps in communication that comes from the university to students, and to show how these gaps are linked to larger issues in the campus climate.

The “universal audience” refers to the audience that a rhetor believes they are addressing, complete with assumptions about that audience’s beliefs and knowledge. I analyzed a variety of pieces of communication sent out from the university (emails, policy statements, and information on the university’s website) to find out what the university assumes about students, their universal audience. Through my analysis, I discovered that the university primarily makes assumptions in two areas: (1) students’ knowledge of campus resources and (2) students’ beliefs in regards to sexual misconduct. I then drew on my experiences and conversations as a student to cross-examine the communication coming from the university to the students, and to see where there are gaps between WCU’s universal audience and the actual students that may cause a breakdown in communication.

From these findings I have generated a list of recommendations for the university in an attempt to bridge the gap in conversations regarding sexual misconduct.
Presentation #3

Victoria McCarty

Presenter: student

Faculty Mentor: Dr. Amy Anderson

Title: Beyond Dying: How is Technology Affecting the Grieving Process?

Key Words: Complicating Grief, Death in the Digital Age, Media-Mediums, Grieving to Let Go versus Grieving to Preserve

On July 1, 2014, my younger brother was killed. I had experienced loss before: loss of life, loss of home, loss of love, but nothing compared to the pain and confusion I experienced after losing Sean. After about a month, I had to return to my job where we had worked together. Every day I waited for him to show up for his shift. It will soon be two years since his passing, and I have not stopped waiting for him to walk through those doors.

My grief inspired me to search for answers regarding this prolonged period of resistance against the reality of loss, and my webtext is documentation of that journey. In traditional grieving process models, such as the Kubler-Ross Model, the purpose of grieving is to achieve acceptance, but what I have found is that technology has created a roadblock between grief and acceptance. From our extensive use of technology during life to the ways that it is used to maintain and/or create connections after the loss of life, we as a society have become more inclined to try and preserve the essence of life than we are to accept the loss of it. Drawing from Jenny Ebauer's work on Rhetorical Ecologies, I have analyzed the ways in which the bereaved speak to and about the deceased through what I call “media-mediums,” creating a network of grieving in which the deceased is an active member.
Presentation #4

Dr. Gary Coutu

Presenter: faculty

Title: Using 3D Modeling to Build Community Partnerships: Visualizing the Market/Gay East Corridor

Key Words: 3D Modeling, Community Engagement, Corridor Planning, Advanced Geospatial Technologies

3D technologies are on the rise in planning. Three dimensional models of streets, neighborhoods, and entire municipalities can provide decision makers with an effective and interactive visual approach that, if applied well, can result in improved planning decisions. At the site and neighborhood scale, the technology can be used to enhance discussions about streetscape improvements, height limits, setbacks, density, and thereby improve decision making over development. 3D modelling requires an investment in advanced technologies that often extend beyond the resources of smaller municipalities. As such, opportunities arise for collaborative partnerships between the University and the community. This project has the multiple goal of demonstrating the planning applications of 3D technologies and identifying opportunities for community engagement.

For her graduate research project, Madeline Schueren developed a 3D model of an area of West Chest Borough. The area was selected to support an ongoing comprehensive planning effort in West Chester Borough. In 2014, the Borough began a two-year planning process to develop a new comprehensive plan. As part of their comprehensive plan, the Borough had identified four “enhancement areas,” which were areas targeted for potential substantial redevelopment in the planning period. The model was developed for one of the enhancement areas, an area commonly called the Market/Gay East Corridor. Market/Gay East lies at the eastern gateway to the Borough at the border with West Goshen Township. Presently an auto-oriented corridor, the Borough targeted the area for improvement to transform it into a mixed-use, pedestrian friendly corridor with better linkages to the downtown and to West Goshen.

The immediate goal of the project was to develop a geo-referenced 3D model that could be used to visualize different development parameters along the corridor. The project included testing a range of 3D technologies for their functionality and complexity. ESRI’s CityEngine was selected to develop a complete model. CityEngine is a 3D modeling software originally built for creating city landscapes very quickly and with mass randomization. Recently the software has been adapted to better integrate into existing GIS platforms and can therefore be utilized on real-world infrastructures to model real-world scenarios. It can be a powerful tool to visual change in a neighborhood and better engage the community in the local planning process. The model was evaluated for its ease of use and effectiveness as a tool for community engagement. The research suggests opportunities for Institutions of Higher Education to engage community partnerships around the application of advanced technologies.
Oral Presentation Session

**When**
3:00pm—4:00pm

**Where**
Sykes Room 210
Oral Presentation Abstracts

Presentation #1

Dr. Paul Sylvester

Presenter: faculty

Title: “Minding the Gaps”: Supporting students across the disjunctures in their academic careers

Key Words: student support, career navigation, community college, student persistence

This study synthesizes lessons learned about the promising role of “career navigators” at community colleges to aid students in the transitions through disjunctures in their career pathways. Career navigators are student support personnel who follow students from recruitment through their studies or training programs to job placement. Using a mixed methods approach, findings come from a four-year evaluation of a 7-college consortium called “Credentials to Careers” funded by the USDOL to create programs to retrain displaced workers for STEM careers. We contextualize our study within the array of ways that educators from pre-k to 20 are “minding the gaps” in students’ educational pathways. Findings show increases in persistence in college, self-efficacy, and income for students who received career navigation.
Title: The associations between community violence exposure, parenting stress, and maternal harsh parenting

Key Words: community victimization, intimate partner violence, parenting stress, harsh parenting

Purpose: The primary aim of the study was to identify the unique contribution of maternal community victimization on maternal parenting stress and maternal harsh parenting practice longitudinally while considering other risk factors.

Methods: Data from the longitudinal Families and Child Wellbeing study were utilized (n = 2,107). Harsh parenting was measured by psychological aggression, physical aggression (from the Conflict Tactics Scales), and “spanking”. Parenting stress was measured by the Abidin Parenting Stress Index. Community violence exposure included two sub-scales: (1) direct victimization and (2) witnessing violence. Other covariates included education level, race/ethnicity, marital status, poverty, domestic violence, social support, paternal involvement with children, depression, and substance use. OLS regressions analysis were conducted for psychological aggression and physical aggression, and a logistic regression was conducted for maternal spanking. The PROCESS (Hayes, 2013) procedure was performed to test the mediational effect of parenting stress between community violence exposure and harsh parenting proxies.

Results: Witnessing community violence, substance use, and parenting stress significantly predicted maternal harsh parenting. Father's involvement protected against maternal psychological aggression and physical aggression, but not for maternal use of spanking. Mothers anticipated high levels of social support were more likely to engage in harsh parenting. Mediation analysis indicated that there was an indirect effect of witnessing violence on harsh parenting behavior through parenting stress.

Conclusions: The study findings showed that community violence exposure exacerbated maternal parenting. Particularly, mothers who witnessed community violence are more likely to experience parenting stress, which would affect their subsequent parenting behavior.
Social service agencies are facing increased demands for accountability, emphasizing the necessity of preparing social work students to effectively evaluate practice. University-agency research collaboration which incorporates a service learning component can offer a strategy to build social work research capacity in community agencies while providing opportunities for application and integration of student research skills.

This presentation describes a model in which MSW course sections in program evaluation partner with a community psychiatric rehabilitation program and a homeless services case management program to design program evaluations guided by the agency's research priorities. The process of assessing agency readiness for evaluation is described, along with the course structure, and the instructor's role of managing group processes, providing technical assistance, and facilitating the relationship between students and agency staff. Student work addressed assessment of rates of psychiatric re-hospitalization, community integration, and housing stability, and increased measurability of individual recovery goals.

Agency staff reported benefits from the collaboration that included access to peer-reviewed literature, introduction to standardized assessment instruments, and stimulation of staff discussion and critical thinking around service provision. Students reported that they enjoyed exposure to the agency setting and a real-world impact of their work. Lessons learned from the project and implications for future university-agency collaborations are discussed.
Oral Presentation Session

When
3:00pm—4:00pm

Where
Sykes Room 252
Presentation #1

Anthony Filippini

Presenter: student

Faculty Mentor: Laurens Holmes Jr.

Title: Race-Specific and Age-Adjusted Childhood Immunization Prevalence: Prospects for Diverse Culture Subpopulation Optimization

Key Words: immunization, pediatric, disparity, race

Background:
Age-related immunizations remain a significant approach to decreasing morbidity, but across populations, factors associated with vaccines received vary. We aimed to assess age-appropriate immunizations and racial differences in childhood immunizations.

Patients and Methods:
A cross-sectional design was utilized to examine age-appropriate immunizations by race. Chi-square and logistic regression were used for data assessment.

Results:
Between 2014 and 2015, there were 68,642 immunizations offered to children 0-18 years. Racial variability was observed with Hepatitis B (HepB), Haemophilus influenza type B (HiB), Measles Mumps Rubella (MMR), Diptheria Tetanus acellular Pertosis (DTaP), Varicella, and Human Papillomavirus (HPV). Age-adjusted immunizations by race indicated that Asians were 47% more likely to receive HepB compared to Whites (aOR=1.47, 95% CI 1.17-1.85). While Blacks/African Americans (AA) were 36% less likely to receive HiB (aOR=0.64, 95% CI 0.61-0.69), they were 10% more likely to receive Varicella (aOR=1.10, 95% CI 1.04-1.16). Regarding MMR, Asians were 21% more likely to receive MMR (aOR=1.21, 95% CI 1.05-1.41), whereas Blacks/AA were 12% more likely (aOR=1.12, 95% CI 1.06-1.19). Concerning DTaP receipt, Blacks/AA were 43% less likely (aOR=0.57, 95% CI 0.53-0.61). The HPV illustrated variability, with Asians 17% less likely to receive HPV (aOR=0.83, 95% CI 0.69-1.00). In contrast, Blacks/AA were 41% more likely to receive HPV compared to Whites (aOR=1.41, 95% CI 1.33-1.50).

Conclusion:
Asians were more likely to receive HepB, Varicella and MMR, but not HPV. However, Blacks/AA were less likely to receive HiB and DTaP, but were more likely to receive HPV, Varicella, and MMR immunizations.
Title: The relationship between the use of mobile-based apps and eating behaviors, physical activity, and health-related lifestyle choices of college students

Key Words: mobile apps, health behaviors, diet, physical activity

Purpose: The purpose of this study was to determine the relationship between the usages of mobile-based applications (apps) designed to track diet and physical activity, and health-related behaviors of college students.

Methods: In a cross-sectional study, 401 students from an urban and suburban campus participated in a validated survey to assess eating behavior, physical activity and health-related lifestyle choices of mobile-app users versus non mobile-app users. Demographic data such as age, sex, ethnicity and race, and anthropometric data were obtained via the survey tool.

Results: Mobile-app users were found to have significantly higher scores for eating behavior than non-app users, and the impact of using more than one type of mobile-based health app significantly improved eating behavior. Most participants also identified app use with feeling healthier, having more motivation to eat healthier and exercise, and better self-monitoring of food intake and exercise. Results also showed that males reported a higher score for health-related lifestyle choices and physical activity than females; however, females showed better eating behaviors; older participants had more positive eating behaviors than younger participants, and the younger group reported a greater frequency of physical activity than the older group, as did subjects identified as white versus non-whites.

Conclusion: According to the results of this study, mobile-based apps may have a positive effect on eating behavior and demographic background appears to be influential towards health related behaviors.
Presentation #3

Sarah Derstine, Micaela McSpadden, Samantha Fernandes, Rachel Joseph

Presenter: students

Faculty Mentor: Dr. Rachel Joseph

Title: Complementary Medicine and Spirituality: Do Indian Immigrants in the United States have a Preference over Pharmaceuticals?

Key Words: Health seeking behavior, Complementary medicine, Spirituality, Indian immigrants

The purpose of this study was to explore the health seeking behaviors, perceived barriers to health care access and the use of complementary and alternative medicine among Indian immigrants in the United States. The use of complementary and alternative medicines (CAM) are quite common among Indians and upon migration to the U.S, they may continue to use CAM therapy for routine care, and access modern health care services for emergencies only (Rao, 2006). This can result in a lack of screening for certain chronic conditions thereby delaying diagnosis and treatment. However, barriers to accessing health care and preventative screening methods among Indian immigrants are not found in the literature.

This study used snowball sampling to conduct 20 in person interviews. The interviews were structured and data was collected about the participants’ demographics, current health and lifestyle, prevalence of chronic illness, factors that affect access to health care as well as health beliefs and attitudes. The findings from this study will guide evidenced based practice and nursing implications when caring for Indian Immigrants in the United States. When caring for Indian Immigrants, health care professionals must be aware of their preferred practices and strategies used as well as the drug-herb interactions that may occur. It is also important to identify the role of spirituality in health and wellness of Indian immigrants to create effective therapeutic regimes and enhance patient satisfaction.
Neuronal precursor cells, such as radial glial cells, and intermediate progenitor cells are now known to produce neurons, which can be classified into two lineages (Tbr2+ and Tbr2-) that differ morphologically and physiologically. In this study, we conduct a comprehensive investigation on differential thalamic inputs to neurons of these two lineages in layer 4 of the mouse barrel cortex.

Since neurons derived from these two lineages have been shown to exhibit distinct electrophysiological and structural characteristics, it is hypothesized that thalamic interactions among them will be different as well. This project examined neurons from Tbr2+ (n=3) and Tbr2- (n=3) lineages in layer 4 of the mouse barrel cortex. Intracellularly filled neurons were immunostained for the vesicular glutamate transporter 2 (VGLUT2), a marker of thalamic excitatory inputs, and imaged at high resolution using confocal microscopy. Neurolucida 360 software was used to reconstruct representative dendrites and the soma, and to quantify spines and VGLUT2+ thalamic appositions on filled neurons. Analyses were performed to assess relative spine density, spine morphology and distribution across the dendritic arbor, and density and distribution of thalamic appositions.

Though no significant differences were found in this study, the absence of differences as well as the trends found, provided insight in regards to the similar thalamic interactions and spine characteristics that these lineages were found to have. This study provided for the first time, normative data on layer 4 of the mouse barrel cortex.
The laws of physics are greatly constrained by the symmetries present in nature. Modern theories of particle physics often contain “hidden” or “accidental” symmetries; these are symmetries which are not included by hand, but rather emerge as new predictions of the theory.

In this work we consider the consequences of a class of such symmetries, known as global higher-spin symmetries, on the evolution of our early universe. We show that the presence of these symmetries during an epoch of inflation imposes surprisingly strong constraints on the resulting cosmology. In fact, we prove that the presence of a single higher-spin symmetry in the early universe is sufficient to force all matter to be free of interactions.

Consequently, theories of particle physics which contain these higher-spin symmetries are experimentally ruled out. This presentation is based upon the reference JHEP 03 (2016) 056.