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# Spring 2015 HEHD Research Forum Program

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College of Health, Education, and Human Development  
and  
Eugene T. Moore School of Education

**Spring 2015**

**HEHD/SOE CLEMSON**  
**RESEARCH**  
**FORUM**

April 23, 2015  
12:00 pm – 4:30 pm  
Hendrix Student Center

**CLEMSON**  
**U N I V E R S I T Y**

## WELCOME, EVERYONE!

This year's Research Forum is a partnership between the Eugene T. Moore School of Education and the College of Health, Education, and Human Development. While we are officially separate units, the strength of our collaborative spirit prevails. It is this networking among ourselves and with others that continues to move us forward.

Our presenters have prepared 59 posters that will facilitate conversations about our exciting work and outreach. Several of our faculty will be featured during a special PowerPoint presentation, highlighting their active grants. All of this is closely followed by the SOE and HEHD Awards of Excellence as recognition for our faculty, staff, and graduate students. In its initial launch, our School and College are sponsoring the Three Minute Flash Talks as a professional development opportunity for our graduate students.

Thank you for your part of these celebrations – as a presenter, an award winner, or an attendee. Your presence is an important element toward our future endeavors.

*Kathy*

Kathy Headley, Ed.D., Professor  
Associate Dean for Research & Graduate Studies

## MESSAGE FROM THE DEANS

Thank you for your participation in the College of Health, Education, and Human Development and the Eugene T. Moore School of Education Research Forum. This is our opportunity to showcase the important work being done by our faculty, staff, and students. Your creativity and innovation is on display for all to see and to learn from each other; we appreciate your continued commitment to discovery and scholarship.

As the university continues its transition, the School of Education and College of HEHD continue to work closely on issues that affect the way we educate children, the way we treat and prevent illnesses, and the way we create a pathway for lifelong learning and healthier living. After all, education and health are two of the most impactful foundational blocks influencing the US economy. The intellectual power of our two units is important to the long-term welfare of our students, and the citizens of South Carolina. The Research Forum showcases that power; and for that, the two of us are extremely proud.

We would like to thank each of you for your enthusiasm and motivation as we work together. Your contributions make a positive difference to our school, college, university, and our state and union.

Sincerely,



George J. Petersen  
Founding Dean  
Eugene T. Moore School of Education



Brett A. Wright  
Interim Dean  
College of Health, Education, and Human  
Development



## Special Acknowledgements

Each year, planning and implementing the Forum involves teamwork. The Forum's Planning and Implementation Team of faculty, staff, and students ensures that important tasks, large and small, are completed to make the Forum evolve smoothly. *To these people, I send a very special thank you.* Their coordination and cooperation are incredible strengths for our School and College.

On behalf of the Eugene T. Moore School of Education and the College of Health, Education, and Human Development, we take this opportunity to acknowledge the efforts of this team as well as those of the HEHD/SOE Research Committee for their guidance and promotion of the Forum.

### Forum Planning and Implementation Team

- Susie McGhee                      Administrative Assistant – Associate Deans' Office
- Karin Emmons                    Media Resources Specialist – Department of PRTM
- Kristen Lawson                   HEHD Learning Resource Center
- Bobbi Curry                      HEHD/SOE Center for Research and Collaborative Activities
- Virginia Baird                    HEHD/SOE Center for Research and Collaborative Activities
- Betsy Clements                   HEHD/SOE Center for Research and Collaborative Activities
- Amy Merck                        HEHD/SOE Center for Research and Collaborative Activities
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- Cindy Hartman                    Student Support
- Morgan Tracy                     Student Support
- Chandler Kalley                   Student Support

### 2013 – 2014 HEHD Research Committee

- Dart Schmalz                      Department of Parks, Recreation, and Tourism Management
- Joe Ryan                            Eugene T. Moore School of Education
- Khoa Truong                      Department of Public Health
- Pamela Stecker                   Eugene T. Moore School of Education
- Paula Watt                        Joseph F. Sullivan Center
- Rob Knoeppel                    Eugene T. Moore School of Education
- Sheri Webster                     School of Nursing

**Thank you for your contributions to our School and College  
and especially to the Spring Forum.**

**HEHD/SOE CLEMSON**  
**RESEARCH**  
**FORUM**

*Spring HEHD Research Forum*  
*April 23, 2015*

**AGENDA**

**11:00 a.m. – 12:00 p.m. SET-UP FOR POSTER PRESENTATIONS**

**12:00 – 2:00 p.m. ATTENDEE CHECK-IN, POSTER PRESENTATIONS AND REFRESHMENTS (Begin Viewing Posters)**  
*Hendrix Student Center Ballroom*

**2:00 – 2:15 p.m. CELEBRATION OF RESEARCH**  
*Hendrix Student Center Ballroom*

**Kathy Headley**  
Associate Dean for Research and Graduate Studies

**2:15 – 2:50 p.m. FACULTY, STAFF AND GRADUATE STUDENT AWARDS OF EXCELLENCE**  
*Hendrix Student Center Ballroom*

**George Petersen**  
Founding Dean, Eugene T. Moore School of Education

**Brett Wright**  
Interim Dean, College of Health, Education, and Human Development

**2:50 – 3:00 p.m. TRANSITION FROM POSTER PRESENTATIONS TO THREE MINUTE FLASH TALKS BY GRADUATE STUDENTS**  
*David Peebles Room, Hendrix Student Center*

**Kathy Headley**  
Associate Dean for Research and Graduate Studies

**3:00 - 4:30 p.m. HEHD/SOE THREE MINUTE FLASH TALKS BY GRADUATE STUDENTS**

**Khoa Truong**  
Associate Professor, Department of Public Health Sciences

**Joseph Ryan**  
Professor, Eugene T. Moore School of Education

**THANK YOU FOR YOUR PARTICIPATION IN  
THE SPRING 2015 HEHD RESEARCH FORUM.**

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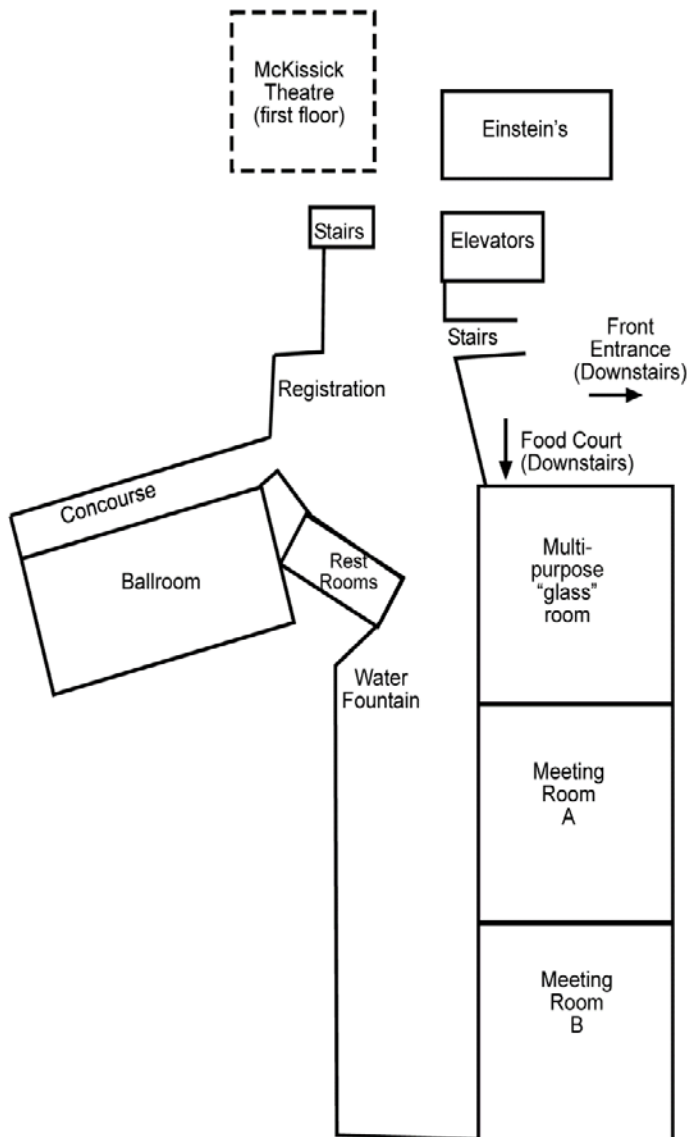
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The complete HEHD/SOE Research Forum booklet with detailed abstracts can be found on the Research Website at <http://www.clemson.edu/hehd/research/research-forum/index/html>.

### Hendrix Center - Points of Interest for Research Forum Participants



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School of Education

### **A Cross-Cultural Exploration of Early Reading Motivation**

(Research presented at the 2014 Literacy Research Association Annual Conference)

Research suggests that, across countries, engagement in early literacy activities prior to entering school positively impacts reading achievement at grade 4 (PIRLS, 2001) and that students with the most positive attitudes toward reading generally had the highest reading achievement (PIRLS, 2006). Early reading motivation is therefore an important component of literacy development. Cross-cultural studies of literacy development however, have tended to focus primarily on the reading achievement of older students. Although such studies are valuable, current theory and research suggest that we shift our attention to early literacy motivation (Mazzoni, Gambrell, & Korkeamaki, 1999; Guthrie & Wigfield, 2000).

The goal of our study was to determine if there are developmental trends in early literacy motivation regardless of cultural contexts or universal patterns across home and school cultures. Data were collected from kindergarten, 1st and 2<sup>nd</sup> grade students in Chile, Finland, Greece, and the United States (US). Chile - 302 students (K = 98; 1<sup>st</sup> = 84; 2<sup>nd</sup> = 120); Finland - 254 students (K = 77; 1<sup>st</sup> = 91; 2<sup>nd</sup> = 86); Greece -307 students (K = 100; 1<sup>st</sup> = 103; 2<sup>nd</sup> = 104); and the US - 701 students (K = 243; 1<sup>st</sup> = 261; 2<sup>nd</sup> = 197).

The “Me and My Reading Profile” (MMRP) (Marinak, Malloy, & Gambrell, 2012) was used to assess the children’s motivation to read. The MMRP contained 18 items designed to measure the reading motivation and behaviors of young children.

Findings suggest similar and consistent patterns of pre- and post-test mean scores on the reading motivation profile in K – 2 classrooms across Chile, Finland, Greece, and the US. Overall, the mean MMRP scores for children in Greece were highest followed closely by the US. Scores from Chile and Finland were similar and somewhat lower than those of the US and Greece. An interesting phenomenon emerged when comparing the scores of children entering kindergarten with the scores of children who were in second grade and at the end of their third year of school. Though Greece had the highest mean scores of the four countries, there was little difference between the pre-test kindergarten and post-test second grade scores. Chile, which had much lower overall mean scores, had similar findings with virtually no difference in the scores. The US, which started at the higher end of the spectrum, saw a modest increase while Finland, which was virtually tied with Chile at the low end of the range in terms of pre-test and post-test mean scores, saw the biggest jump between early kindergarten and late second grade scores. The results of this study suggest reading motivation does not decline from kindergarten through second grade. This finding is significant given that previous research has reported a decline in reading motivation across grades one through six (McKenna et al., 1995).

Prior studies of young children’s early reading motivation have only documented a decline or no change in reading motivation across grades one through three. This study suggests that there is an overall increase in motivation across the early grades. Taken together, the preliminary results of this study suggest that examination of cultural differences in young children’s reading motivation has the potential to generate a new hypothesis about motivational phenomena, and shed light on general issues related to the study of young children’s motivation to read.

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Youth Development Leadership  
Department of Parks, Recreation, and Tourism Management

### **When Parents Hover: Conceptually Mapping Overparenting in Youth Program Settings**

Outdoor recreation practitioners want parents to be engaged and involved, but what happens when parents become over-involved? Overly involved parenting, sometimes labelled overparenting, has received increasing attention in popular culture for more than a decade and has given rise to terms like helicopter parents and lawnmower parents. As program providers seek to meet parents' high expectations, increasing attention is being paid to effectively addressing and managing over-involved, over-protective parents. This poster explores the origins and causes of overparenting and offers a conceptual model for the influence of overparenting within youth program settings.

Jeff Marshall ([marsha9@clermson.edu](mailto:marsha9@clermson.edu))

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School of Education

**Development and Validation of Teacher Intentionality of Practice Scale (TIPS):  
A Measure to Guide and Scaffold Teacher Effectiveness**

Multiple instruments exist to evaluate a wide array of teaching practices; these measures primarily function to provide data for high-stakes decisions such as awarding merit pay and making personnel decisions. However, most teacher evaluation instruments fail to provide a model to support teachers in continuous growth and improvement. The current study details the development and validation of Teacher Intentionality of Practice Scale (TIPS), an observational protocol designed to measure intentional teaching practices and support teacher growth over time. The primary goal of this study is to develop a reliable and valid measure of research-based teacher instructional practices while also providing a growth model for K-12 educators at all levels of preparation and experience. TIPS aims to articulate a developmental model of teacher practices; how can we support teachers in a positive growth process that also includes their active input and involvement? Observations (N=77) were conducted in elementary, middle, and secondary classrooms across all core subject areas during the validation process. This paper details the theoretical foundations of TIPS, reports specific measures of reliability and validity of the observational protocol, and discusses applications of TIPS for teacher evaluation and professional development.

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Iowa State University

### **Online Professional Development for Algebra Progress Monitoring: Teacher Use and Satisfaction**

Twenty-nine general and special education teachers from SC, IA, and MN used online professional development to administer and to score algebra measures across 10 weeks and used the accompanying online data management to monitor students' algebra progress. Data from the final year of a grant by the Institute of Education Sciences awarded to Iowa State University and Clemson University included teachers' change in knowledge, their accuracy with scoring and data entry, and their satisfaction with online training.

Project teachers taught foundational algebra skills to students in grades 7-12 in either a general mathematics course or an algebra support course. Teachers were required to complete 11 online professional development modules, including description, administration, scoring, and data entry for three types of algebra progress monitoring measures. Teachers (in conjunction with researchers) selected one of three types of algebra progress measures to administer, score, and enter data in the online system for a group of students across a 10-week period. In addition, they conducted skills and error analysis for at least two students whose progress they were monitoring.

Researchers designed a multiple-choice assessment to reflect change in knowledge about use of algebra progress monitoring from beginning to end of the project. In addition, researchers examined teachers' accuracy in scoring measures and in data entry. Teachers completed questionnaires to report their satisfaction and use of the online system.

A convenience sample of five contrast teachers who did not participate in the online professional development also took the pre- and post-knowledge test. Online teacher scores grew significantly from pretest to posttest, while contrast teacher scores did not. Teachers' overall accuracies in scoring progress monitoring measures and in entering students' scores into the online data management system were 97% and 96%, respectively. Among the 29 teachers, 27 agreed or completely agreed that time spent completing professional development and giving algebra measures was acceptable. Twenty-five teachers agreed or completely agreed that time spent scoring the algebra measures were acceptable, while 26 agreed or completely agreed that content of the measures was acceptable. Results indicated that teachers were able to use online professional development successfully to acquire knowledge of and skill in using algebra progress monitoring and the online data management system.

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School of Nursing

### **Flow Cytometry Analysis of Immune Cells from Women with a High Risk of Developing Breast Cancer**

Today many women with a family history of breast cancer are choosing drastic surgeries to lower or eliminate their risk for this disease. For many years, our research team has been interested in breast cancer susceptibility and in developing a method of detection for high risk women. Initial data from our laboratory showed alterations in DNA synthesis and/or repair in the white blood cells of susceptible women following UV-C irradiation. Further studies identified a subpopulation of monocytes expressing CD14 and CD16 surface markers as the candidate cells. Monocytes and their lineage (macrophages and dendritic cells) are important in the immune system and play a role in carcinogenesis. Alterations or errors in DNA repair mechanisms in these cell types may affect their role in immune surveillance and in tumor progression. Our most recent flow cytometry data indicate a shift in monocyte CD14 and CD16 expression in high risk women as compared to average risk controls following exposure to UV-C. This information suggests a method for identifying changes in a subpopulation of immune cells that may correlate with cancer risk and aid in early detection. In addition, plasmacytoid dendritic cells were evaluated by flow cytometry following UV-C irradiation. This second type of immune cell was assessed to determine if their response to the irradiation warrants further study.



Shirley M. Timmons ([stimmon@clemsun.edu](mailto:stimmon@clemsun.edu))  
School of Nursing

### **Review and Evaluation of Faith-based Weight Management Interventions that Target African American Women**

**Purpose:** To evaluate faith-based weight management interventions (WMIs) that target African American women (AAW) based upon recommended health intervention critique criteria (Conn 2007, Evans 2003). AAW experience the highest prevalence of adult obesity in the United States (US) when compared to other ethnic groups. Evidence-based WMIs can help to alleviate obesity. In addition, faith-based interventions hold promise for helping to address this national priority health problem since a significant portion of AAW views the church as a trusted entity. No systematic evaluation of faith-based WMIs has been reported in light of the ongoing plea for strategies that enable replicability and generalizability of outcomes. Sufficient description: relevance to theoretical/conceptual framework, interventionist's qualifications, mode of delivery, setting, target population, physical location, subject preparation, and dose as well as assessment of effectiveness, appropriateness, and feasibility (hierarchy of evidence) are the intervention evaluation criteria applied.

**Subjects:** 21 intervention studies, published between 1998 and 2013, were identified through electronic databases: Academic Search Complete, ATLA Religion Database with ALTA Serials, CINAHL Plus with full text, Health Source: Nursing/Academic Edition, MEDLINE, and MEDLINE with Full Text. Five\* (CSD, WORD-16, WORD-8, FBAS, and P-HEAL) met inclusion criteria: a) majority African American adult female study group, b) healthy change in body mass index and/or weight loss as a primary outcome variable, and c) published in the US.

**Methodology:** Integrative Review

**Summary of Findings:** Reports included information that both aids and compromises the ability to replicate and sustain the interventions. Information disclosed that fostered replication ranged from theoretical linkages to dosage. Inadequate or absent information included interventionists' attributes and physical environment of the intervention.

**Conclusions/Implications for Practice:** There is a need for interventions with fuller disclosure of a) interventionists' background, b) in-church implementation location, and c) any pre-intervention treatment required and those d) with robust methodologies (e.g., randomized settings and participants), e) deemed appropriate from the perspective of the study group, and f) that are financially feasible – without steep participant incentives and/or implementation costs that compromise internal validity and any positive outcomes generated.

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### **A Pilot Study: Delirium in the Intensive Care Unit: Utilizing the Zmachine Sleep Monitor for Assessment**

**Introduction/Background:** Delirium continues to be a major issue in intensive care units (ICU). Delirium can be defined as a “syndrome of disturbance of consciousness with reduced ability to focus, sustain, or shift attention” (Khan, et al., 2012). This condition includes a variety of cognitive, behavioral, and psychological symptoms, such as short-term memory loss, sleep disturbances, agitated behaviors, and delusions (Khan, et al., 2012, p. 4). Delirium has been linked to extended hospital visits, increased hospital costs, and eventually a worsening prognosis. While data shows a correlation between sleep deprivation and delirium, further research is still needed. The goal of our research is to determine the relationship between delirium and lack of REM sleep utilizing the Zmachine sleep monitor to capture brain wave patterns during actual sleep activity compared to patient characteristics and activity in the ICU environment.

**Specific Aims:** The specific aims of this study were to describe clinical characteristics and sleep cycle of patients who required sedation and mechanical ventilation in a medical pulmonary intensive care unit. The four specific aims are:

1. Describe patient demographics
2. Describe the percentage time of sleep cycles using wireless system Zmachine
3. Describe environmental factors and care that could contribute to delirium
4. Describe the use of sedatives, pharmacological categories and doses

**Methods:** A pilot study of 7 new patients for up to 7 days between January 2015 and February 2015 who were intubated and sedated, age 65 and older. Data on patient sleep cycles will be collected using the Zmachine, an EEG-based sleep monitoring device. A time sheet was placed outside of each room to record time and type of interruption during nighttime hours (2100-0600).

**Statistical Analysis:** Descriptive statistics and frequency counts analyzed as percent sample characteristics and mean response times were the major units of analysis using SPSS 14.

**Results:** Results are pending and will be available at the time of presentation.

**Implications:** This study seeks to assess the possible correlation between lack of REM sleep and delirium in the ICU. The ultimate goal is that the study will result in new protocols related to better utilization of sedation in the ICU, so that sleep quality will increase and levels of delirium will decrease.

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### **Don't Turn on the Light: Exploring Summer Camp Professionals' Perceptions and Camp Policies on Ghost Stories**

There is a range of opinions regarding sharing ghost stories in a summer camp setting. Summer camps offer a controlled and safe environment for campers to challenge limits and conquer fears (Ventura & Garst, 2013). Ghost stories can be used as a method to hook campers into the program and build community within the camp (Higgins, 2008). However, not all campers may be emotionally quipped to handle ghost stories resulting in perceptions of camp being an unsafe and scary environment (Ellis, 1981).

Using a mixed method approach, camp policies, professional philosophies, ghost story settings and definitions were explored in order to better understand the judgement process used by professionals. A total of 87 professionals in the camp field were surveyed using a convenience sample. Eighty-two percent identified themselves as Caucasian. Approximately 41% shared their perceived career level to be Mid-Career. Nearly 90% of the camps represented are located in the Southeastern portion of the United States. Of these camps, over half (51%) described themselves as being strictly residential camps. Approximately 72% identified as being ACA accredited.

Frequencies, relationships and thematic coding were explored. Findings suggest three overarching philosophies regarding ghost stories at camp: Prohibited, Tolerated, and Actively Allowed. Statistically significant relationships were found between philosophies and perceived career level. A three-tier ghost story definition tool was also developed for camp professionals to use when determining their policy and practice regarding ghost stories at camp.

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### **Banning the Box: Employers' Experiences after Implementation of Ban the Box Policies**

It is estimated that 65 million U.S. adults have criminal records, which equates to roughly one in four American adults. Of those incarcerated, more than half a million are released from prison annually. The ability to obtain stable employment is a primary factor in facilitating a successful transition to life after prison. However, studies show that Americans with criminal records face significant barriers to obtaining employment.

One method to reduce employment barriers, such as hiring bias against job applicants with criminal records, involves legally barring employers from inquiring about criminal backgrounds on job applications. This method, commonly referred to as "Ban the Box," has been implemented among states and municipalities in the public sector, the private sector, or both. Ban the Box policies do not eliminate questions about applicants' criminal backgrounds, but simply delay questions until after job applicants have obtained an interview or a conditional job offer.

Few studies have been conducted to examine the impact of Ban the Box policies on employers and job applicants. This pilot study uses a non-experimental design to examine employers' hiring experiences related to implementation of Ban the Box policies. An online survey of human resource departments in Minnesota, where a statewide Ban the Box law became effective January 1, 2014, was conducted. The goal of the research was to gather data about the type and extent of effects on hiring practices experienced by employers after implementation of Ban the Box policies. Anticipated outcomes are that few human resource departments will have experienced negative hiring impacts, such as increased costs, excess staff time, or increased workplace violence, after implementation of Ban the Box policies. This study informs employers regarding the costs and benefits they may experience as a result of Ban the Box policy implementation. The results of the pilot study will be presented via this poster presentation.

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### **The Evaluation of the Greenville County Girls on the Run Program**

The purpose of our study is to evaluate an ongoing, established program of Girls on The Run that promotes physical activity, positive self-esteem, healthy body image and healthy lifestyles among girls and young women. Girls on the Run is a non profit organization that encourages elementary and middle school girls to see their true potential and all that they are capable of achieving. The mission of Girls on the Run is to creatively incorporate running into a fun and experienced based curriculum that encourages joyful, healthy, and confident girls. The curriculum is divided into three main parts including understanding ourselves, valuing relationships and teamwork, and understanding how we connect with and shape the world. The running aspect is a very crucial part of the curriculum. Running is used to motivate and inspire girls to have a life filled with physical activity and confidence. Girl's on the Run's underlying theoretical model is Lerner's Five C's of youth development. The Five C's are Character, Caring, Competence, Confidence and Connection and are the core to the Girls on the Run curriculum. We propose to conduct an evaluation of the Greenville County Girls on the run program from the Spring 2014 season. The study includes approximately 100 elementary and middle school Girls on the Run participants. The data has been collected through a new Girls on the Run pre and post paper-pencil surveys. A new codebook data entry template and analysis syntax were created. Data was entered, checked for accuracy, and then analyzed using SPSS 21. Descriptive statistics and paired t-tests will be conducted to describe the study population and used to determine if significant positive changes ( $p < .05$ ) occurred across the 5 C's of youth development.

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### **Analysis of Clemson University's Employee Wellness Program**

The nurse-managed Joseph F. Sullivan Center of Clemson University operates an incentive based employee wellness program called CU4Health designed to address the need for preventive health management among Clemson University's employees. In order to determine the effectiveness of the program, researchers from Clemson University's School of Nursing analyzed the return of investment from the program, defined by the improvement of participants' health goals following consultation sessions. Overall health of the participants was scored through the data from eight biomarkers. There were three sample groups that were compared: participants who had no consultation, participants with one follow-up consultation, and participants with more than five follow-up consultations.

Data collection for this research project comes from WellSuite, the online charting system used by the Sullivan Center. Using the Personal Wellness Profile, the researchers ran a report with trending information (of the eight biomarkers) on each subject. Trends were produced to determine changes in these values if the participant had more than one counseling session with CU4Health. The researchers then determined the averages of the eight biomarkers for each of the groups and examined the trends of the eight biomarkers among the three groups.

Significantly, the group of participants who had one wellness check with no follow-up counseling session had the unhealthiest averages across all of the biomarkers. The group of participants who received only one follow-up counseling session scored the highest on six of eight biomarkers. Although the group with one counseling session consistently scored the best average, the group with five or more sessions was only marginally lower. The group of participants who had five or more counseling sessions only had the healthiest average in two biomarkers but scored the highest overall wellness rating average.

The individuals who did not return to any counseling sessions displayed the worst health, as was expected. However, the two groups who returned to one counseling session or five or more counseling sessions were very similar in terms of health status, but the group of one counseling session was slightly overall more healthy when examining all biomarkers. The wellness score was highest among the group of five or more counseling sessions, which could determine that overall this was the healthiest group when considering all pertinent health information. This research displays evidence that participation in Clemson University's employee wellness program is associated with overall healthier biomarkers, therefore supporting the implementation and continuance of the CU4Health.

The researchers of this experiment are Grace Stonecypher and Nicole Clements, Calhoun Honors College students in the School of Nursing at Clemson University. Dr. Nancy Meehan and Caitlin Moore are the sponsors of this research.

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### **The Role of Attitude on Local Seafood Purchase Intention of Tourist Couples Visiting South Carolina: A Multi-Level Approach**

Despite the collective nature of tourism activity, the research focusing on group behavior in tourism literature is very rare. People usually travel with groups, mostly with their families who have influence on their travel decisions. Food as one of the unique aspects of a destination has become a marketing tool for tourism planners. The preference of local food among tourist will create positive impact on the region and exploring the underlying factors of this preference will be beneficial for future marketing plans. The purpose of this study was to understand the factors influencing local food purchase intention of tourist couples visiting coastal areas of South Carolina through the use of modified Theory of Reasoned action and provide a better understanding of their decision making process by using HLM as data analyzing technique.

Data was collected in Charleston and Beaufort from 180 tourist couples in October 2014. Results show that even if women have negative attitude towards oysters, their intention to purchase local seafood is not different than men. Positive variables have stronger influence on intention to purchase seafood at individual and couple level and as couples get older they influence each other in a positive way. This study provided theoretical implications by applying modified Theory of Reasoned action in tourism decision making process, methodological implications by bringing a new way to understand this process by testing the relationships at individual and couple level and practical implications by providing insight into tourist's intention to purchase aquacultured and wildcaught oysters during their vacation.

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### **Research Proposal: Health Belief Changes in Low SES Type 2 Diabetics Utilizing a Diabetes mHealth Application**

Type 2 (T2) diabetes disproportionately affects the lower SES population in the United States. If untreated, diabetics may develop serious complications such as heart disease, stroke, kidney failure, blindness, and even premature death. T2 diabetes can be treated and managed through healthful eating, regular physical activity, and monitoring of blood glucose levels. Previous studies have shown mixed results for mHealth mobile applications' ability to improve diabetes outcomes, and very few of these studies considered the effects of diabetes app interventions on the health beliefs held by the participants. The functionality of these apps are focused primarily on monitoring clinical outcomes, rather than health beliefs due most likely to the lack of appropriate or sufficient data to support these functions. I hypothesize that the use of an application tailored toward increasing psychosocial constructs will increase health beliefs and increased health beliefs will be associated with increased management practices.

The population of interest is low SES T2 diabetics receiving care in one of 40 free health clinics in South Carolina. Free health clinics in South Carolina require proof of residence within 20 miles of the clinic, income less than the federal poverty level (\$11,670 per year), and do not qualify for government assistance. Urban/Rural stratified random sampling is performed to identify 10 clinics from which to sample our participants. Inclusion/Exclusion criteria include physician diagnosed type 2 diabetes, seeking regular care in the past 6 months, and current phone number listed. Participants would then be randomized into either an intervention group receiving a smartphone with the app or a normal care group.

A baseline pre-test and 2 post-tests (6 months and 12 months) measuring health beliefs will be performed. Data will be collected through in-person interviews using the revised Expanded Health Belief Model Questionnaire (EHBMQ) which has previously gone through rigorous reliability and validity testing. The variables to be measured in the survey instrument are demographic variables and the constructs of the Health Belief Model which include perceived susceptibility, perceived seriousness, perceived benefits, cues to action, and self-efficacy. Also, dietary log, physical activity log, and HbA1c data will be collected by the application and collected by the researchers.

Expected analysis includes testing demographic equivalencies between the two groups comparing the number of participants in each strata (age, race/ethnicity, gender, treatment plan) using a chi-squared test (or t-test for age). Next, average pre and 2 post intervention scores for the HBM questionnaire would be compared using chi-squared tests. Lastly, level of physical activity, diet, and HbA1c levels will be analyzed for improvements. Significant results will be interpreted using a .05 alpha level for p-values.



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### **Effectiveness of Personalized Genetic Education Modules**

**The Purpose/Problem Statement:** Applied genetic therapies and personalized medicine urge the necessity of genetic education for clinicians. Specifically there is a need for education about how to utilize available genetic technologies for practice and how to translate available genetic information into specialty practice. If genetic medicine is to converge with personalized medicine, then doctors in specialty practice need to be equipped to better utilize and interpret genetic technologies. The purpose of this study was to determine the effectiveness of specialty department personalized genetic education modules for clinicians in hospital settings using pre and post-test measures.

**Methodology and Results:** For the project, two researchers provided independent presentations on specialty focused genetics in the clinic of two different departments in a large community hospital in the Southeast region of the United States. Before the presentation, both researchers met with department staff to discuss need, observed the assigned departments and developed the presentation content based on identified needs. Pre and post-tests were designed based on the presentations and given to the staff in each department to determine the effectiveness of the presentation to increase clinicians' understanding of genetics and attitudes toward genetic medicine. Overall the researchers found little increase (%9.61) in genetic knowledge.

**Summary and Discussion:** This research is a baseline study to determine the effectiveness of specialty department based personalized education modules for clinicians. Results from this project indicate that healthcare professionals are already being taught the theory of genetic medicine but that application based modules are necessary for clinicians to be open to the importance of personalized genetic medicine to their specialty practice.

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### **Application Technology: Enhancing Parent Satisfaction in the Neonatal Intensive Care Unit (NICU)**

Although there are limitations on how parents can care for their infant while in the Neonatal Intensive Care Unit (NICU), parents need to be involved in their infants' health status and progress. This research study aims to address how educating and empowering NICU parents in areas of health and nutrition can improve their satisfaction during their child's hospitalization. They will have the ability to track the progress of their baby day-by-day by monitoring their child's temperature, weight, and nutritional care using an iOS app designed for NICU parents. Users will benefit from increased involvement in their child's care, and the ability to identify personal health goals for their child. Parental satisfaction will be measured using a parent satisfaction survey following use of the NICU app. Collaboration with the research team, Greenville Hospital System and March of Dimes is continuing. A team from Dr. Roy Pargas' graduate computer science iOS class has created a pilot NICU app for the study, and the research team is now working to finalize the application for use on the "App Store". The parent satisfaction study will be conducted in the following fall semester. This research is supported by the Calhoun Honors College and Creative Inquiry program.

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### **The Effect of Raspberry Extract on Breast Cancer Cells**

The anticarcinogenic activity of berry extracts has been well documented in the literature. Prior work in this lab has shown that raspberry, blackberry, and muscadine extracts may exhibit anticarcinogenic effects by inhibiting the activity of metalloproteinases 2 and 9. The high antioxidant levels of berry extracts are also an important property contributing to the inhibition of tumor cell proliferation, especially in breast cancer cell lines. Fruit intake, especially berries and peaches, has been associated with lower rates of estrogen receptor negative (ER-) breast cancer in human studies. Blueberry extract has been shown to decrease proliferation of triple negative breast cancer (TNBC) cells both *in vitro* and in mouse studies. Additionally, a survey of postmenopausal women regarding intake of 29 fruits demonstrated a significantly lower risk of developing ER- breast cancer with increased intake of peaches and berries, including blueberries, but not other fruits. The effects of berry extracts, other than blueberry, on TNBC cell lines and the comparison of those effects with non-TNBC cell lines has not been determined. The purpose of this study is to compare the effect of 5%, 7.5%, and 10% raspberry extract on two different breast cancer cell lines, the ER+ T47-D cell line with no *BRCA* mutation and the TNBC cell line HCC-1937 with a *BRCA1* mutation. Freeze dried Meeker red raspberries were extracted with water. The extract was diluted to 5%, 7.5%, and 10% concentrations. The cell lines, T47-D and HCC-1937, were treated separately with the raspberry extract concentrations. Cell survival was determined by CellTiter 96® Aqueous Non-Radioactive Cell Proliferation Assay (MTS) (Promega, Madison WI). Our preliminary data indicate that raspberry extract inhibits the growth of both breast cancer cell lines, with the T47-D cell growth inhibited to a greater extent than the HCC-1937 cells. Cell-cycle analysis was also determined using cell flow cytometry.

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### **What does it Matter What I Think? Challenging Teacher-Child Relationships, Perceptions, Power, and Prophecy**

This study explored Head Start teachers' mental representations of their relationship with a challenging child. The study describes teacher self reflections about a targeted challenging relationship with a student collected from reflective writing journals. The journals were completed by teachers as a structured reflective writing intervention focused on improving teacher well-being and effectiveness among Head Start teachers. This primary research project considered the efficacy of a reflective writing intervention on improving teacher-child interactions and teacher wellbeing. The current study focuses on the attitudes expressed within the teachers' reflections in regards to the challenging relationship. This study utilizes ethnographic methods to unpack the themes embedded within the teachers' writing. The initial analysis revealed teacher mental representations characterized by three emerging themes: 1) teachers engaging in self reflection and positive goal setting, *engaged*; 2) teachers restating vocabulary and expressing how "it would be good if", *avoidant*; and 3) teachers focusing on the challenging child's problems or disinterest in improvement, *blaming*.

This study describes the way that teachers reflect on challenging relationships with students and the themes that emerge when their thoughts are carefully considered. Research asserts the power of teachers' mental representations to influence their interactions with students and their overall wellbeing. Mental representations, or internal working models, influence teachers' perceptions of interactions and guide their reactions. This study seeks to paint the picture of the challenging teacher-child relationship with the brush strokes of a group of Head Start teachers' efforts to improve. The stories of their most challenging relationships and how they perceive them are relevant at a time when teacher efficacy and retention are necessary for progress in early childhood education. These findings and their implications contribute to a timely discussion about the importance of considering how teachers internalize challenging relationships in an effort to support their wellbeing and teacher efficacy.

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### **Tumor Phenotypes in High Risk Breast Cancer Patients: Comparison between African Americans and Caucasians**

This retrospective chart review study aims to examine the relationship between different tumor phenotypes in a high-risk population of women with breast cancer from different ethnic backgrounds. Data will be collected from the medical charts of 600 women considered to be high-risk breast cancer patients based on the National Comprehensive Cancer Network guidelines from a hospital in the Southeast region.

The results from these data will help determine if there is a correlation between specific tumor phenotypes in African American and Caucasian women. If associations between ethnicity and tumor phenotype are found, these results could suggest the need for alternative guidelines for breast cancer screening based on the woman's ethnic background and risk assessment. Thus, potentially decreasing the rate of late stage diagnosis and improve the mortality rate and outcomes of high-risk breast cancer patients.

The sampling method for this research study is a retrospective, convenience chart review. The research team of 13 undergraduate student and two PhD students will be divided into three groups and will travel to the hospital for five or six days to record data such as: patient demographics, tumor characteristics, family history, and genetic test results from each patient's chart of the electronic medical record.

While the data is not yet collected, a review of literature has been completed to help determine specific biomarkers that lead to more fatal cancers. There is a need to determine why African American women have a lower incidence of breast cancer, yet a high mortality rate (Ma, et al. 2013).

The results of this research may lead to revisions in the current screening protocol for earlier diagnosis of more aggressive breast cancers among women of high risk, particularly women of African American descent.

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Youth Development Leadership

Department of Parks, Recreation, and Tourism Management

### **Building Pathways from Research to Practice: Preparing Youth Development Professionals through a Blended Online Master's Degree Program**

As evidence increases for the link between quality out-of-school time programs and positive outcomes in youth, increasing attention has been paid to preparing frontline youth workers and youth development professionals. In 2006 Clemson University launched an online Masters of Science degree program in Youth Development Leadership (YDL), one of the first degree programs of its kind designed to address the practice of youth development. The degree targeted nontraditional students working full-time in a range of youth development and out-of-school time settings. An online survey assessment was completed on the YDL program based on the responses 60 YDL graduates who completed the program between 2007 and 2014. Although designed as a fully online program, students were most satisfied with the on-campus orientation requirement as well as the integrated cohort model. The greatest competency gains reported were program planning and development skills and designing youth learning environments skills. Professional impacts are discussed.

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Youth Development Leadership

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### **On Belay: An Assessment of the Sport of Climbing**

The sport of climbing is at a crossroads; it is quickly growing in popularity with the development of national and international competitions and features in popular media. However, in spite of this rapid development there is a lack of research into nearly every aspect of climbing. This poster reviews a mixed methods study of over 700 climbers and themes that emerged that guide the climber decision making process including stewardship and mentorship, barriers to participation and access, and organizational governance. The poster also introduces the demographic issues the sport is encountering and potential mechanisms of change for both equity and diversity enhancement.

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**The South Carolina Witness Project: Booster Trainings with New Breast and Cervical Cancer Guidelines to Improve Knowledge and Screening Behavior among African-American Women**

The South Carolina Witness Project is a community and faith-based education program that aims to reduce the burden of breast and cervical cancer among African-American women. The project trains women from communities across the state about breast and cervical cancer, emphasizing the promotion of screening and early detection. These women then provide education to others through community presentations in which they “witness” about their experiences with cancer and encourage other women to be proactive in their own health. Ultimately, the Witness Project seeks to increase participation in breast and cervical cancer screenings among African-American women and thus reduce the number of deaths due to these cancers.

Since 2008, more than 400 Witnesses have been trained throughout the state, and through their community presentations, nearly 9,000 people have received education about breast and cervical cancer. In the spring of 2015, a new component of the project was begun to revise the Witness Project script and educational materials to reflect the most recent national breast and cervical cancer guidelines, including new screening recommendations and additional emphasis on HPV vaccinations for cervical cancer prevention. Two booster training sessions for previously trained Witnesses were also held in order to provide them with the latest cancer guidelines so that they can convey the new information in their community presentations. At these booster sessions, the women were asked to complete a pre-test and a post-test to assess their knowledge of breast and cervical cancer before and after the training. To date, 22 women have attended the sessions, and of that, 20 pre and post-tests were analyzed to determine the effect of the training on their cancer awareness. Data show a significant increase in mean cancer knowledge regarding breast and cervical cancer guidelines. The mean knowledge score increased from 21 (sd= 4.2) on the pre-test to 25 (sd=2.2) on the post-test, representing a 16% increase in knowledge. (Highest possible score was a 29). The difference between the two means is statistically significant at the .05 level ( $t=4.6$ ;  $df=19$ .) Data suggest that the booster trainings were successful in raising knowledge and awareness of the new screening guidelines. Booster sessions are an important aspect of the Witness Project as medical and screening guidelines often change, and in order to successfully address breast and cervical cancer disparities among African-American women in South Carolina, the Witnesses themselves must be knowledgeable about those changes.



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### **Effects of Mammography Radiation on Breast Cancer Severity**

This research was conducted to find out whether there is an association between the number of mammograms a woman receives and the severity of her breast cancer. The focus is on women with an inherited germline mutation, which is analyzed by genetic testing. An in-depth literature review is provided to exhibit current research regarding the topic of breast cancer and mammography. Both the strengths and the limitations of the up-to-date research are acknowledged, along with the need for continuing research to be done. We expect to find a correlation between a woman's mammography history and the severity of her breast cancer. The aim is to understand whether there is an association between radiation involved with mammography screening and women with an inherited germline mutation. Specifically, if the radiation from the mammograms puts this group of women at a higher risk for developing breast cancer, or for developing a more severe form of breast cancer.

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### **The Intergenerational Transmission of Marriage Relationship Satisfaction Findings from the National Longitudinal Study of Adolescent Health 1994-2008**

**Purpose:** Increased marriage relationship satisfaction not only has intrinsic value, but also is associated with a number of health benefits. Although numerous studies have explored the intergenerational transmission of relationship quality, most studies lack nationally-representative samples. This study will contribute to the literature on the intergenerational transmission of relationship satisfaction by using data from the National Longitudinal Study of Adolescent Health (Add Health; 1994-2008).

**Participants:** The original sample of 15,243 adolescents was derived from the Add Health study. Add Health, a longitudinal study with a stratified, nationally representative sample of students from high schools and feeder schools across the US who were in 7<sup>th</sup> through 12<sup>th</sup> grade in 1994 with some oversampling of populations of interest. The analytic sample consisted of 5,114 of the original adolescents whose responses were included in the public use Wave 4 (2008) Add Health dataset used for this study.

**Methodology:** Variables assessing parent relationship satisfaction and parenting style from in-home surveys of students and students' parents in Wave 1 (1994-1995) and survey responses on gender and relationship satisfaction from participants who are adults in Wave 4 (2008) will be used in the analyses. The hypothesis that the intimate partner relationship quality of the parent is significantly related to the intimate partner relationship quality of the adult student 13 years later will be tested with hierarchical multiple linear regression analyses. Moderational analyses will be conducted to determine if parenting style and student gender moderate the longitudinal association between the youth's parents' relationship quality with the adult youth's own intimate partner relationship qualities.

**Implications for Practice:** Findings on the intergenerational transmission of relationship satisfaction will contribute to better understanding whether interventions to improve parental romantic relationships and parenting style may provide benefits to future generations.

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### **The Perception of Free Time among College-Attending Emerging Adults with Distinctive Identity Statuses**

Two fundamental characteristics of emerging adulthood, the developmental period coinciding with 18-25 years of age, are *identity development* and *freedom*. An individual's identity development, or identity status, is understood as the juxtaposition of identity exploration and identity commitment and can act as the basis by which to compare motivations and behaviors across emerging adults. The present study sought to understand a basic tenet of freedom, perception of free time, among American college-attending emerging adults ( $n=565$ ) with distinctive identity statuses. Hierarchical cluster analyses were conducted to generate the identity status solution, and multivariate analyses of covariance were used to determine if the perceptions of free time differ among the identity status groups. Results indicated that the identity status groups significantly differed in *awareness* of what to do during free time, *boredom* felt during free time, and *challenge* pursued during free time. Those working with emerging adults in college health and recreation settings should consider the impact of identity development and the perception of free time when creating and implementing programming and marketing campaigns.

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### **Vulnerability Assessment of Ecotourism to Climate Change in Dana Biosphere Reserve, Jordan**

This study aims to assess the vulnerability of ecotourism to climate change in Dana Biosphere Reserve, Jordan. The researcher investigated to understand climate change threats, implications, and adaptation methods to cope with threats by conducting semi-structured interviews with stakeholders. Findings reveal that Dana is exposed to different climatic stresses: drought, decreased precipitation, and increased temperature that create several implications on Dana's ecotourism systems regarding environment, local communities, and tourism demand and activities. Climate change causes several environmental problems: degradation of water resources, biodiversity loss, and habitat fragmentation. It also changes the lifestyle of local communities. With respect of tourism, climate change leads to a shift in camp season and an increase in trail and facility damage. The study confirms that Dana has an effective adaptation on both ecological and socio-institutional; Dana's sustainable management and the diversity of ecosystems and climatic zones are key components in reducing vulnerability to climate change.

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### **Investigating the Role of Leisure Skills Courses in College Student Development**

**Purpose:** The purpose of this study was to determine what role leisure skills courses may play in facilitating developmental skills such as stress management, body-esteem, and self-esteem regulation in college students.

**Methods:** Questionnaires were administered to students at the beginning and end of the semester to assess change over the course of the semester. There were 220 participants (111 males, 109 females) ranging in age from 18 to 28. The perceived stress scale, self-esteem scale, and body-esteem scale for adolescents and adults were the measurements used for this study.

**Results:** Students in outdoor classes experienced a significant increase in weight satisfaction, appearance satisfaction, appearance attribution, and self-esteem. Students in sport related classes experienced a significant increase in appearance attribution. Students in fitness courses experienced a significant increase in appearance satisfaction.

**Implications:** This study provides insight into implications for practice nationwide. Colleges and universities need to increase opportunities for leisure education on campuses. Providers could also integrate building body-esteem into leisure education courses as body-esteem and self-esteem are related. There could also be an emphasis on specific types of classes offered, for instance outdoor leisure education was found to improve body-esteem and self-esteem in this population. While the study provides a first step in understanding the role that leisure skills programs may have in the health of college students, further research pinpointing how to improve body-esteem, self-esteem and stress management through leisure education is needed.

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### **Romanticism in Urban Landscapes: How Investment in Urban Parks Helped Revitalize the City of Chattanooga, Tennessee**

The romantic preservation movement is credited with helping preserve many parks and wilderness areas in the United States. The philosophy behind romanticism espoused respect for nature and enhancement of its integrity as opposed to fear for nature and the attempts to conquer it. What if those same principles of reverence for nature and ecological integrity were integrated into urban landscapes? There is increasing recognition of the role of proximity to nature in enhancing the psychological well-being and quality of life and thus an effort to enhance and bring back green infrastructures urbanized areas. Residents and visitors use such spaces for recreation, connection with nature and also for educational purposes. This research looks at the role of urban parks and other green infrastructures in the rebirth of the City of Chattanooga, TN, once the “dirtiest city in America.” Findings suggest that investment in environmentally-sensitive recreation amenities were pivotal in re-imaging the city.

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### **Phenylalanine Hydroxylase Deficiency: The Effects of Kuvan Treatment on Body Mass Index and Biochemical Measures**

The purpose of this research will be to examine the relationships between Kuvan (saproterin dihydrochloride) therapy, body mass index (BMI) changes, and changes in biochemical/micronutrient measures in phenylalanine hydroxylase (PAH) deficient individuals in South Carolina and nationally.

PAH deficiency affects approximately one in every 15,000 births in the United States. Left untreated, PAH deficiency can result in intellectual disabilities and alterations in nutritional and physical status. Prompt treatment in infancy decreases toxic metabolites from elevated phenylalanine levels and lowers the risk of complications. Primary treatment for PAH deficiency is a diet low in the amino acid phenylalanine; however, treatment with a newer medication, Kuvan, can lead to a reduction in blood phenylalanine levels in some individuals. Kuvan is a synthetic form of BH<sub>4</sub>, a cofactor for the PAH enzyme. Treatment with Kuvan activates residual PAH enzyme, improves oxidative metabolism of phenylalanine, and lowers phenylalanine levels in Kuvan responsive individuals.

Clinical observations report weight gain in individuals on Kuvan therapy, but few studies have examined this phenomena. The purpose of this proposed study is to explore relationships between BMI, biochemical and micronutrient indices in Kuvan responsive individuals. For this study, a retrospective chart review and national data set will be analyzed using quantitative statistics. This unique research will examine the effects of Kuvan treatment on BMI and biochemical laboratory values, with the potential to lead to the development of dietary guidelines for individuals on long-term Kuvan therapy and additional research in PAH deficiency.

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### **Considering Cell Free Fetal DNA Testing: Decision Making Processes of Women**

Noninvasive testing is on the rise, keeping pace with an increase in the desire of the public to know and understand genetics and genetic disorders. Cell free fetal DNA (cffDNA) involves taking a blood sample from a pregnant women and analyzing the fetal DNA cells in her blood for chromosome determination. Research has shown that public opinion is favorable for applying noninvasive testing for identifying abnormalities in fetal chromosomes. Women who have not undergone cffDNA testing demonstrated an affirmative response with the majority of women accepting and interested in cffDNA testing. Once women have undergone cffDNA, based on their testing experiences, more varied responses to cffDNA testing were found. In addition, there are women are not interested in prenatal testing and using cffDNA.

We do not understand the process by which women make their decisions about pursuing noninvasive prenatal testing (NIPT). There is also limited understanding of how women learn and educate themselves about NIPT, especially cffDNA testing. This research will bring to light a better understanding of the decision making process of women regarding cffDNA testing. An additional aim will be to assess the strengths and gaps in women's knowledge and education about cffDNA testing. Understanding the decision making processes of women and how they educate themselves can help healthcare providers better address women's needs for counseling and individualized treatment for NIPT.

A qualitative descriptive approach will be used for this study. Purposive sampling of women who had or considered cffDNA testing during their pregnancy will be invited to participate in the study. Open ended questioning will be used to promote rich descriptions of women's decision making processes and knowledge of cffDNA testing.

This research aims to expand our understanding of the cffDNA testing experience, possibly leading to the potential new approaches for counseling and educating women and families. As new testing is developed this research can serve as a guide to understanding women's responses to new technologies in prenatal care.



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### **Social Support and Access to Healthcare as Predictors of Heart Failure among Young Adults**

**Purpose:** Patients with heart disease must overcome a complex set of behavioral and attitudinal obstacles if they wish to have a health-related quality of life. The difficulty and frustration of this illness can be mitigated by social support and improving contextual circumstances, which has been demonstrated in previous research. A contextual variable that is likely to predict heart failure in young adults is access to healthcare. The purpose of this study was to examine if social support and access to healthcare predicted if a young adult has heart disease.

**Participants:** The sample included participants in the National Longitudinal Study of Adolescent to Adult Health (AddHealth), a nationally–representative sample of youth who were interviewed in grades 7-12 and followed over time 1, 7, and 13 years later. The sample used for this analysis included participants with heart disease and an equal number of participants without heart disease (n = 82).

**Methodology:** Data were analyzed to assess the relationships between social support from friends and family, access to healthcare, and heart disease assessed at Wave 4 when participants were between the ages of 24 and 32 years. Friend support was assessed with a single item asking how many close friends they had. Family support was assessed with 10 items that have been used in prior studies (e.g., “How close do you feel to your mother/father?”). Access to health care was assessed with three items (e.g., “In the past 12 months, did a health problem get worse because you did not get care when you thought you should?”). Logistic regression will be used to determine the odds that a participant developed heart disease in young adulthood based on their levels of social support and access to health care. Gender and parent vital status will be controlled for in the analyses.

**Implications:** The implications for study findings might entail increased efforts to improve access to care and improved social support in order to have a positive impact on the incidence of heart disease, both at an early age and for the long term.

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### **Protective Factors for Early Sex Initiation among Adolescents**

Data from an NIH-funded study of adolescent dating violence among rural South Carolina youth examined protective factors for early sexual initiation. Results showed that higher family functioning, lower levels of depression, lower risk influence by friends, lower alcohol and tobacco use, and less exposure to dating violence led to lower rates of early sexual initiation. However, these factors differed by the adolescents' ages and gender. This presentation will highlight the study's findings and discuss implications for policy and practice.

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### **Use of Social Media as a Tool to Identify Symptom Needs in Children with Autism**

The purpose of this research is to decrease misunderstandings between caregivers and clinicians by analyzing social media data about Autism Spectrum Disorder (ASD) and gastrointestinal symptoms to gain insight into concerns that caregivers do not know how to share with clinicians. This will allow clinicians to better meet patients' needs.

A descriptive/exploratory review will be used for this study. The subjects for this research are the posts from individuals and caregivers' of individuals with ASD. Through the social media lab on Clemson University campus, Radian 6 software is offered, which will allow the research team to pull out target words from social media posts. Using this method, the research team can collect descriptions from social media of the "lived experience" of persons with autism, or their family member's experiences. This data will be used to assess current conditions and concerns. The data collected from Radian 6 will be analyzed to determine the concerns and symptoms of persons with autism and/or their caregivers. First, data will be collected for 2 weeks, threads will be identified that contain words related to ASD and gastrointestinal disorders, data will be cleaned using NVIVO software, and then word clouds of most frequently used descriptors will be created. Word clouds are a graph option available via Radian 6 that can be created when analyzing data. Word clouds contain the most popular words that appear in threads on Radian 6 in relation to the search topics. The word cloud should show that gastrointestinal symptoms have become a concern of caregivers and individuals living with ASD even though literature has yet to show a correlation. Literature review research done prior to the proposed work does not discuss a link between gastrointestinal symptoms and ASD. The research team's past social media analysis has shown a link in social media between gastrointestinal symptoms and ASD. The goal is to show a disparity between the literature and what individuals are posting on social media.

Initial pilot data has been collected and analyzed. In this subsequent expanded research the researchers expect to observe an association between discussion of gastrointestinal symptoms in relation to ASD. Data will be analyzed in the next couple of weeks. The research is anticipated to determine if social media is a reliable source of information about patients and caretakers' needs that may not be mentioned in clinic. Gastrointestinal symptoms were chosen because they are not part of the classic symptoms of ASD so they are less likely for patients to bring up in the clinic but they are unpleasant so they are highly likely to be mentioned on social media. This research is the first step in addressing deeper questions regarding the void between what laypeople to understand why often individuals believe that social media is a better outlet for their questions than clinicians. Credit for this project should be given to Calhoun Honors College and Creative Inquiry for sponsoring this research.

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### **Wellness Programs: Utilizing Incentives to Shrink Americans' Waistlines**

Chronic illnesses are becoming an epidemic in the United States. The concern of healthcare providers is how best to combat these health concerns. The purpose of this research is to revise CU WELL, Clemson University's employee wellness program, by identifying successful qualities of incentivized wellness programs among companies and universities. The CU WELL program has a health activity tracker (HAT), which allows participants to track and earn points for healthy lifestyle choices. The team revised the HAT to include activities and programs that are relevant and appealing to Clemson University employees. In addition, the team created an incentive schedule and selected incentive rewards that encourage healthy lifestyles. The team collaborated with resources on campus, received a Calhoun Honors College grant to fund incentives, created advertisements for CU WELL and presented updates on CU WELL to the Clemson University HR Department. In conclusion, transforming CU WELL into an incentive-based wellness program will encourage Clemson employees to take an active role in improving their health. Calhoun Honors College and Creative Inquiry sponsored this research.

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### **The Effect of Aloe Emodin on the Growth of Breast Cancer Cells**

Breast cancer accounts for nearly 25% of all cancers and has a high mortality rate in women. Estrogen receptor  $\alpha$  (ER $\alpha$ ) plays a key role in the development and progression of some types of breast cancer. Synthetic estrogens are commonly used in ER+ cancers to compete with estrogen for the estrogen receptor in an attempt to halt cell proliferation. Synthetic estrogens often have harmful side effects, however, so efforts to discover natural phytoestrogens are increasing. Aloe emodin is an anthraquinone present in *Aloe vera* and rhubarb (*Rheum palmatum*). It is a phytoestrogen and has been shown to inhibit breast cancer cell proliferation by downregulating levels of ER $\alpha$ . T-47D and HCC-1937 breast cancer cells were treated with varying concentrations of aloe emodin (25  $\mu$ M, 50  $\mu$ M, 75  $\mu$ M, 100  $\mu$ M) and the rate of cell growth for each treatment concentration was measured. The results indicate that the inhibitory concentration 50% (IC50) is approximately 50  $\mu$ M for both cell lines.

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### **Study of Trends and Skills for the Tourism Sector in Rwanda**

To understand the future of the tourism sector in Rwanda, an impetus of identifying and understanding the common links between trends and skills based on variables such as tourism products, services and human resources is needed. The study revealed an apparent missing interface between tourism strategies and the factors leading the global travel and tourism market. Failing to address the needs of the labor force in the growth process of the tourism sector in Rwanda leads to some setbacks. With a long-term vision of driving the tourism sector in Rwanda on the basis of high-end quality, diversification and socio-economic development, the study highlighted some pitfalls. Shortage of qualified and skilled labor force coupled with the lack of significant investment in high quality skills to meet the needs of the country sparked the private sector to question the sustainability element of the tourism sector. The findings of the study showed that the skills-sets needed in the labor force should be correlated to future aspirations, and expectations of the country. The study depicted to the tourism private sector an efficient and effective trajectory that could lead their labor force into a new generation based on emerging trends dictated by the global travel and tourism market, a plausible efficient and effective trajectory.

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### **A GIS Analysis of Proximity to Parks and Crime in Greenville County**

Increased crime is a common reason for opposition to parks and open space in communities. This project investigated the relationship between crime and parks in Greenville County using GIS to test the idea that parks lead to more crime in the surrounding neighborhood. Three methods were used to analyze the data – hot spot analysis, geographically weighted regression, and buffer analysis. The results revealed that different patterns emerge depending on whether the scale of analysis was large or small. The methods used showed that parks had an impact on crime in the immediate area and were able to map where proximity had the greatest influence on crime. The conclusion points to the likelihood of other factors, such as socioeconomic variables, contributing to higher amounts of crime in park neighborhoods. Challenges in data fragmentation and access will also be presented.

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### **Physical Activity Levels and Sedentary Behaviors among College-Aged Students**

The purpose of our study is to examine physical activity and sedentary behaviors among college-aged students. Physical activity plays an important role in many health outcomes. Inadequate physical activity is associated with increased risk of obesity, heart disease, diabetes, and certain cancers. American adults are recommended to engage in 150 minutes of moderate to vigorous physical activity each week yet most Americans do not achieve this recommendation. Sedentary time is also emerging as an important predictor of poor health outcomes yet we have inadequate information about rates of sedentary time or what recommended levels should be for adults. We propose to conduct a cross-sectional, convenience survey of college students to assess physical activity and sedentary behaviors. Study participants will include Clemson University undergraduate and graduate students from all departments on campus. Data will be collected through an online survey platform (SurveyMonkey) using established self-report measures for physical activity and the 7-day SIT-Q Questionnaire. Data will allow us to determine to what extent students are meeting the recommended levels of physical activity and how much time is spent in various categories of sedentary time. Trends in physical activity and sedentary behaviors across gender, ethnicity, and student major will also be examined. Knowledge of physical activity and sedentary behaviors among college students will be important to assess risk status and set behavior and programmatic goals to promote health.



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### **The Impact of "Neighboring" Behaviors during Adolescence on Adult Community Participation**

**Purpose:** Numerous studies have explored the importance of a sense of community on community participation (Mahatmya & Lohman, 2012; Lenzi, Vieno, Pastore, & Santinello, 2013; Talo, Mannarini, & Rochira, 2014). Other studies have examined the importance of social capital on civic engagement (De Donder, De Witte, Buffel, Dury, & Verte, 2012). However, few empirical studies have explored the longitudinal impact of the “neighboring” behaviors during adolescence on community participation in adulthood.

This study assesses the impact of “neighboring” behaviors during adolescence on adult community participation as measured by civic participation, political participation, and trust in government. The study tested the following hypotheses:

- (1) A positive association exists between “neighboring” behaviors in adolescence and community participation as adults.
- (2) “Neighboring” behaviors among racial/ethnic minorities and immigrants adolescents are more important in predicting adult community participation than amongst the general population.

**Participants:** A nationally representative sample of 15,243 adolescents participated in the National Longitudinal Study on Adolescent Health (Add Health). This study uses Wave I (1994-1995) and Wave III (2001-2002) data. Among the participants, 48.4% were male, 66.0% were white, 24.9% were black, 3.6% were American Indian, 4.2% were Asian, 5.3% were immigrants. The average age at Wave 1 was 15.75 (SD=1.78) and 21.86 at Wave 3 (SD=1.80).

**Methodology:** Community participation was defined to include civic participation, political participation, and trust in government. A series of sub-scales were developed from variables in Add Health to measure these constructs. Reliability tests were conducted to ensure validity using the Cronbach’s Alpha. Bivariate and multivariate regression analyses were conducted to model the relationship between “neighboring” behaviors, community participation, race/ethnicity, and immigration status. Moderational analyses were conducted to determine if race/ethnicity and immigrant status interacted with “neighboring” behaviors to predict community participation.

**Implications for Practice:** Better understanding the association between “neighboring” behaviors during adolescence and community participation in adulthood can improve positive youth development initiatives and participation in communities across the United States and the globe.

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### **The Influence of Homestay Facilities on Tourist Satisfaction in the Western Kenya Tourist Circuit**

Kenya is one of the leading tourist destinations in Africa, which creates the need to foster closer linkages between the tourists and the local community members. As such, many homestay facilities have come up in the recent past to cater for the accommodation needs of the tourists. Yet information on the tourists' satisfaction levels regarding the homestay facilities in Kenya currently remains unknown. The study therefore determined the influence of facilities and services offered by homestays on tourist satisfaction within the Lake Victoria area of the western tourist circuit, Kenya. The study was conducted through survey design comprising a randomly selected sample of 20 homestay facilities (with a total of 42 respondents) that were identified through the Kenya Community Based Tourism Network database (KECOBAT). The findings indicate that 71% were not satisfied with the homestay. This was mainly attributed to inadequate tangible factors of service quality which the study also revealed were a better predictor of tourist satisfaction in homestays than intangible factors. Therefore it may be prudent for the homestay owners to ensure that they have adequate facilities (not necessarily high quality but should be functional) to ensure repeat business especially through recommendations.

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### **The Contribution of Indigenous Ecological Knowledge in the Conservation of Enguserosambu Community Forest, Tanzania**

Community managed forests constitute a significant proportion of the world's forests, nevertheless, little is known regarding their condition or the details of how they are managed. Forests are home to many cultures including the indigenous people. However, indigenous knowledge is rarely documented or incorporated into conservation planning. It is therefore aim of this research to examine the contribution of indigenous ecological knowledge in conservation of Enguserosambu Community Forest and surrounding rangelands. Individual and group semi-structured interviews as well as focus group discussion were conducted to customary elders, village leaders, forest user groups, NGO's, forest officers and community conservation trust. A total of 57 individuals were involved out of which 19 were females. Thematic analysis was carried out for qualitative information using NVivo 10. To assess effectiveness of community conservation practices, satellite imagery with 30 m spatial resolution were acquired from Landsat 7 and 8 for land cover change analysis using ArcGIS 10.2. According to Enguserosambu communities, culture and forest is one and the same. Age group meetings, cultural bomas and traditional celebrations are some of the strategies used to share local knowledge in the community. Local institutions participate in training and capacity building as well as enforcing established laws. Despite having clear traditional practices and rules about forest protection, forest cover change persist.

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### **Dietary Behaviors and Nutrition Intervention References of Breast Cancer Survivors**

Breast cancer is the most commonly diagnosed cancer among women and there are expected to be 1,665,540 new cases diagnosed in 2014. Advancements in early detection, have greatly improved treatment outcomes for the majority of these patients and the 5-year survival rate is 89.2%. The newly emerging field of survivorship care is an attempt to meet the unique needs of this expanding population. Research has demonstrated that an unhealthy body weight is an important modifiable risk factor for the recurrence of breast cancer. This study used an electronic version of the Block 2005 to collect dietary information on 30 breast cancer survivors presenting to a survivorship clinic for the first time. Key variables in The Dietary Guidelines for Americans 2010 were used to evaluate the dietary habits of these patients. Interest in receiving remote nutrition interventions was assessed through a separate questionnaire. Results demonstrated that the majority of the sample was overweight and failed to meet the recommendations for the key dietary variables. The results from the nutrition interest survey indicated that the patients were interested in receiving nutrition information from the hospital and the preferred remote nutrition intervention was email communication. This data is important because it indicates that this population of breast cancer survivors could benefit from dietary changes and are interested in receiving nutrition information. Given the large number of breast cancer survivors, interest in email communication is an important step in reaching this growing group of cancer survivors. Future nutrition research with breast cancer survivors should focus on the feasibility of remote nutrition interventions in assisting these patients to attain and maintain a healthy body weight.

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### **Developing National and Global Identities: Adolescent Identity Crisis Negotiation during a Two Week International Exchange**

Literature elucidating the adolescent travel experience is scarce. In fact, travel and tourism scholarship to date largely glosses over the adolescent experience, focusing instead on the perspective of the whole family unit or the experience of the older adult traveler. The purpose of this study was to give voice to youth travelers by investigating the travel experiences of two male and six female adolescents from the South Eastern United States.

The study participants engaged in a two week Sister City International (SCI) exchange program in Northern Ireland, comprised of a mix of service, civic, and tourism based activities. Six of the participants were White and two African American. All were either 15 or 17 years of age. The study employed a qualitative research methodology utilizing interviews, field notes, and open and close ended survey questions to elicit meanings and perspectives about their experience. Data were recorded and transcribed, and then coded independently by three members of the research team. Themes were developed from the data and discussed until agreement between the researchers was reached. In order to establish trustworthiness in the findings, triangulation of the data was achieved through the multiple data sources and field notes were used to guide a reflexive data collection and interpretation process (Strauss & Corbin, 1994).

Findings indicated that participants may have undergone a process of identity transformation and development, marked by a greater appreciation for their national identity and indicative of early stage global identity development. Novel, disorienting events related to the travel experience were found to initiate identity crises that required identity negotiation (Swann & Bossom, 2008), exploration, and achievement (Marcia, 1994); e.g. American identity, travel identity.

Travel may allow youth to become more aware of and able to define specific, personal identity domains which will facilitate successful identity transformation in the future. Continued examination of the youth travel experience generally and travel-induced youth identity development specifically is imperative. Longitudinal research could also explore the long term impact of these experiences on personal, academic, and career identities.

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### **Chronic Condition Predictors of Emergency Room Expenditures among Uninsured People Aged 45-64**

Chronic health conditions among the uninsured aged 45-64 are likely to cause high costs for Medicare when these individuals turn 65. Proper prevention and management of these chronic conditions among middle-aged uninsured people constitutes not only an issue of equity but also of efficiency. The purpose of this study was to explore which chronic conditions are associated with emergency room expenditures among uninsured people aged 45-64 living in the U.S.

We used the MEPS 2012 household component data to estimate the association between specific chronic conditions and ER expenditure (N=1102). To deal with the left-censored distribution of the dependent variable "total ER expenditure," we used a Tobit regression model to determine which chronic conditions predict ER expenditures among uninsured people aged 45-64. Independent variables included smoking, cardiovascular disease, diabetes, cancer, pneumonia, asthma, mental disorders, back problems, skin problems, and kidney disease. We controlled for the sociodemographic confounders gender, race/ethnicity, education level, geographic region, household income and marital status.

Cardiovascular disease ( $\beta=1453.237$ ,  $p=.017$ ), diabetes ( $\beta=2072.317$ ,  $p=.007$ ), and back problems ( $\beta=3215.644$ ,  $p=.000$ ) were found to be significant contributors to ER expenditure. Kidney disease was marginally significant ( $\beta=2805.303$ ,  $p=.060$ ).

ER expenditure signals an inefficient use of health care resources, and ER expenditure beyond age 45 among the uninsured could predict high cost for Medicare. Public health stakeholders should focus on controlling cardiovascular disease, diabetes, and back problems among the uninsured as these conditions are most significant predictors of ER use among the uninsured aged 45-64.

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### **The Efficacy of an Anti-Malarial Compound in Decreasing Cell Viability in a Rare Form of Breast Cancer**

Breast cancer is the most common form of cancer diagnosed in women. In 2014, there was projected to be 235,030 new diagnoses of invasive breast cancer among U.S. women and 64,640 new cases of *in situ* or non-invasive breast cancer (NCCN, 2015). Additionally, around 40,000 U.S. women were expected to die as a result of the disease. Although breast cancer remains a leading cause of death for women, there has been a decrease in both incidence and deaths related to the disease (Breastcancer.org). The decrease in mortality is suggested to be due, in part, to improved treatment regimens. The introduction of anti-estrogen therapy is one example of how improved understanding of the mechanism behind cancer development has led to more efficacious treatment. Despite breakthroughs like these, the need for effective and lasting therapy options for those diagnosed with breast cancer remains. Recent research has suggested a potent anti-malarial compound could potentially be useful in the fight against many different forms of cancer, including breast cancer.

Artemisinin, the active component of the traditional Chinese medicinal herb *Artemisia annua L.*, has been shown to be cytotoxic in a variety of cancer cell lines (Crespo-Ortiz & Wei, 2012). The water-soluble derivative, Artesunate, has been especially promising. Previous research in other labs has shown that Artesunate is able to induce mitochondrial-mediated apoptosis in multiple breast cancer cell lines by way of reactive oxygen species generation (Hamacher-Brady et al., 2011). Additionally, variability in cytotoxicity has been reported in different breast cancer lines treated with Artesunate. While many different breast cancer cell lines have been treated with Artesunate in the laboratory setting, there has not been a study to date that examines the effects of Artesunate in breast cancers having a germline mutation.

In order to determine the cytotoxic effects of Artesunate on a mutation positive breast cancer cell line, a cell line with a germline mutation resulting in a rare form of breast cancer was treated with varying concentrations of Artesunate (25 $\mu$ M, 50 $\mu$ M, 75 $\mu$ M, and 100 $\mu$ M). A control breast cancer cell line negative for the rare genetic mutation was then treated with the same varying concentrations of Artesunate. Spectrophotometry and flow cytometry were used to determine cell viability. It was hypothesized that there would be a difference seen in cell viability between the germline mutated and control cell lines. Results suggest Artesunate may be more cytotoxic to the mutated cell line compared to the control. Further research is needed to confirm this finding as well as to uncover the underlying molecular mechanism leading to the decreased cell viability seen. The high tolerance seen in malarial patients treated with Artesunate as well as the newly discovered cytotoxic effects in cancer cells make this a potentially useful drug in breast cancer treatment.

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### **Breast Cancer Susceptibility to Gene Mutations and Radiosensitivity to Mammography**

Over 200,000 new cases of breast cancer are expected to be diagnosed and treated in 2015. Breast cancer development is influenced by genetic markers, radiation, and other environmental factors. *BRCA1* and *BRCA2* are two genes known to participate in DNA repair and cell cycle control. It is now widely accepted that patients with a *BRCA1* or *BRCA2* gene mutation are at an increased risk for breast cancer. This increased risk includes developing breast cancer at a young age, or developing a more intense or rare type of breast cancer. With this new knowledge, health care providers have recommended more frequent breast cancer screenings for those diagnosed as *BRCA1* or *BRCA2* gene mutation carriers. Mutations in *BRCA1* and *BRCA2* hinder tumor-suppressing processes and genes are no longer able to repair base damage single-strand breaks, and double-strand breaks in DNA, events all caused by radiation. Other genetic markers including estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) are involved in the development of breast cancer. ER and PR positive cancer cells need these two hormones, estrogen and progesterone, in order to grow. HER2 proteins are involved in the growth and replication of cells. If there is a mutation present, the cells grow rapidly and create malignant cells. Exposing women with genetic mutations to radiation, like that of mammography, before the age of 30 could increase their chances of developing breast cancer. Since these women do not have functioning genes and proteins, some fear that radiation from these tests will cause DNA breakages and increased replication leading to an even greater risk of a patient contracting breast cancer. Thus far, data have indicated relatively inconclusive results in finding significant associations between mammography and breast cancer incidence rates or severity in high-risk breast cancer patients. In our Creative Inquiry project in the Fall we will be analyzing this association and expect to find a correlation between a woman's mammography history and the severity of her breast cancer or an overall increased breast cancer incidence rate in high-risk women who were continually screened, especially at younger ages.



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### **Impact of a Novel After School Program: Smart Fit Girls**

Individuals who are highly physically active are more likely to have a greater self-esteem, better body image, and increased physical activity self-efficacy. Currently, the average PE program provides less than 12% of the recommended daily amount of physical activity, with adolescent girls being the least active. The primary purpose of this research is to explore the efficacy of an after-school program, Smart Fit Girls (SFG), which aims to improve adolescent girls' physical activity habits, self-esteem and body image. A secondary purpose is to examine how physical activity and mother/daughter relationships affect adolescent girls' physical and emotional health. Girls attending Riverside Middle School in Pendleton, SC and their mother or female guardian were recruited for this study. The girls were 10-14 years old, in good academic standing, and were not involved in school athletics. To explore the impact of SFG all participants and their mothers will complete two rounds (pre/post) of questionnaires and focus groups. A control group of daughters and mothers at R.C. Edwards in Clemson, SC will participate in quantitative and qualitative data collection as well. Preliminary data demonstrate an 11% increase in self-esteem in mothers and statistically significant improvements in body image between pre and post measurements in girl participants.

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### **Assessing the Impact of Race and Gender on Economic Stability**

**Purpose:** In the United States, income, wealth and poverty consistently vary by race. Based on American Community Survey data, in 2010, 11% of whites lived below federal poverty levels compared to 27% and 32% of African Americans and Latinos respectively. In a society entrenched in values of self-determinism and personal responsibility, why is there such a growing divide of the “haves” and “have nots”? Almost every indicator of well-being shows troubling disparities by race within class groupings. Class is not a protective factor for people of color on certain indicators. For example, African American women with Ph.D.’s are more likely to have low birth weight babies than White women with less than a high school education. This paper seeks to assess if income and employment outcomes vary among different race/gender groups after controlling for education attainment level.

**Participants:** The sample for this study was derived from the National Longitudinal Study of Adolescent Health (Add Health). The participants comprise a nationally-representative sample of youth who were surveyed when they were in grades 7-12 and followed over time 1, 7, and 13 years later.

**Methodology:** Analysis of variance (ANOVA) with Tukey posthoc tests will be used to determine if there are differential outcomes among six subgroups, white females and males, Hispanic/Latino females and males, and African American/black females and males, on employment and income outcomes. Analyses will be conducted separately for predicting income attainment, operationalized by asking respondents about household income, personal earnings before taxes, homeownership status, dollar value of household assets, financial gifts/loans from family members, dollar value of debt, and self-perception on an economic ladder.

**Summary of the Findings:** The analysis is currently being conducted and will be presented for the HEHD/SOE Research Forum.

**Implications:** The results from this study will help determine to what extent, education accounts for economic stability, and to what extent race/gender accounts for economic stability. This study intends to examine different outcomes amongst racial/gender groups. Additionally, although this paper operationalizes economic stability looking at income and assets, future research using gender/racial groups should assess the widening racial/gender wealth gap. Further research is warranted to determine the impact of social capital (family financial support and inheritance), institutional and policy dynamics (homeownership, college readiness, affirmative action/reverse discrimination) and social and cultural factors (marriage).

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### **Utilizing Personalized Medicine in Hydrocodone Use: Efficient in Preventing Side Effects or Not?**

**Purpose:** To analyze whether personalized medicine has a potential benefit of the application of hydrocodone in eliminating the side effect.

**Organizing Framework:** Hydrocodone is a semi-synthetic opioid widely used for treating pain in USA. Hydrocodone is an opioid analgesic metabolized in the liver by O-demethylation to hydromorphone, a potent stimulant of the central nervous system, which has 7-10 times analgesic potency more than morphine. One major metabolic pathway of hydrocodone is N-demethylation to norhydrocodone in the human liver<sup>3</sup>. Genetic variation may play a larger role in determining individual variation in drug responses than is currently understood. Many different gene variants have been identified by their influence on the medication response. CYP2D6 was found to be associated with hydrocodone metabolism. Here we utilize a literature review approach to determine whether the three factors (phenotype, age, and race) are responsible for side effects of hydrocodone. In addition the review will determine whether pharmacogenetic testing could prove beneficial in improving drug efficacy and reducing adverse drug responses of hydrocodone, with potential to offer the patient relief from pain.

**Findings & Conclusions:** Determine if personalized medicine is beneficial for hydrocodone use, since hydrocodone is one of the most common pain medications resulting in a more safety treatment option.

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### **GENE: Genetic Essentials in Undergraduate Nursing Education**

Genetic advances in healthcare are a significant reason patients are having better health outcomes than they have had in the past. To properly educate our future nurses, genetic competencies were established by the American Association of Colleges of Nursing for incorporation into nursing curricula. The purpose of this research was to evaluate the amount of genetic and genomic content incorporated into the curricula at various levels within the undergraduate nursing programs at Clemson University's School of Nursing. This study evaluated all required nursing specific classes' syllabi and textbooks for the Baccalaureate of Science nursing program. Genetic and genomic key words and phrases were searched within each syllabi and their correlating textbook and lab manual chapters. This genetic word count was compared to the total word count. For areas where genetics was referenced, further information was obtained to determine which genetic concepts were being taught in that nursing course. Preliminary analyses revealed that of all syllabi analyzed (n=29), only 3 had any mention of genetics or genomics. Additional analyses of textbooks and lab materials (n=25) revealed 21 contained genetics or genomics concepts. From the current results, it may be concluded that genetic information is available but an emphasis on genetics was not evidenced in either clinical or didactic course objectives or syllabi content. Increasing the amount of genetic content in the Baccalaureate of Science curriculum is imperative to adequately prepare future healthcare providers to meet the genetic and genomic needs of their patients. Preliminary results indicate a need for recommendations and continued integration of genetics into both the didactic and clinical components of the undergraduate program's nursing curricula. This research was supported by the Calhoun Honors College and the Creative Inquiry program. Rebecca Zobel, a member of Calhoun Honors College, Denzel Anderson, and Marshall Pritchett were researchers involved in a Creative Inquiry led by Tracy Lowe, MS, RN and Elizabeth Hassen, MSN, RN, OCN.

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### **Women Student Leaders: Themes of Experience within Co-Ed Student Organizations**

**Purpose:** Leadership roles in extra-curricular organizations in a higher education setting provide many opportunities for students to get involved and hone skills outside of academia. The purpose of this study is to explore whether or not women student leaders believe gender impacts their roles as executive officers of co-educational student organizations on campus.

**Subjects:** Five women student leaders participated in a qualitative study from a mid-sized research university in the Southeast. Women make up 46% of the overall student population at the institution. Four of the participants were executive board members of residential organizations, and the other participant was an executive board member of a programming council for students in transition. All five participants self-identified as White Americans and ranged from first year to senior status.

**Research Methodology:** Participants were selected based on criteria established by the research team including hierarchical leadership structure, management of a budget, responsibilities to constituents, and the participant must be elected or appointed. The qualitative design was intentional to gather information regarding participant demographic, involvement on campus, challenges and successes in their leadership roles, and whether or not gender impacted these experiences. Interviews were audio-recorded and transcribed, checked for validity, and researchers analyzed the findings to identify themes among participant experiences.

**Summary of Findings:** Three overarching themes emerged with direct relation to the subject's gender. The women student leaders noted they were not taken seriously by peers, they were negatively labeled by other members of the organization, and they described taking a relational approach to leadership.

**Conclusions/Implications:** Multiple factors contributed to the experience of women student leaders, some of which can be attributed directly to gender. The most salient theme was women not being taken seriously. Practitioners should utilize multiple approaches to combat this theme. Students should be encouraged to increase diversity within their organizations, specifically recruitment of more women, which would increase women's voices and contribute to them being taken more seriously. Additionally, practitioners should highlight the work that women are doing and their achievements through various methods of recognition. Other items to consider include adapting advisor's approach to fit the relational preference of women leaders and revamping social justice trainings across campus.

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### **Measuring Peer Influence among Sorority Members**

**Purpose:** The purpose of this research was to gain an understanding of whether sorority women in National Panhellenic Conference (NPC) sororities influence the social behaviors of their fellow sorority sisters. The specific research question for this study was, “Are sorority women’s behavioral decisions influenced by their sorority sisters?”

**Subjects:** A total of 330 NPC women participated in the study out of more than 2,600 NPC sorority members, representing 12% of the total undergraduate student population at a mid-sized, public, research institution in the Southeast.

**Research Methodology:** The researchers distributed the survey via Campus Labs, a campus-wide research and assessment tool. The survey consisted of 29 questions, divided by three categories: alcohol use, social norms, and student involvement. Social norms were defined as a set of ideas about how women should look and behave, based on cultural and societal expectations. Each section consisted of five-point Likert-scale questions, with the opportunity for comments at the end of each section. The final section asked for demographics information related to their length of involvement.

**Summary of Findings:** *Alcohol Use:* Results did not indicate a higher level of alcohol consumption or importance of alcohol in their sorority experience, compared to their alcohol use outside of their sorority. However, participants reported that almost half of their sisters consumed four or more drinks in a single outing. *Social Norms:* A majority of women stated that they looked to sisters for signals on how to behave in a new social setting, with an increase for women who were in their sororities for less than two years. Women in their sorority for two years or less were more likely to provide feedback to their peers when entering a new social setting. *Student Involvement:* Involvement in university activities was found to be of importance to respondents, with the highest percentages reported by those who held leadership positions in their sororities. The respondents also indicated a higher level of involvement with organizations their sorority sisters were also involved. Additionally, participants reported that they spent more time with their sorority sisters compared to individuals outside of their sorority.

**Conclusions/Implications:** Results did not show compelling information in identifying peer influence related to alcohol use among sorority women, which could be attributed to enforcement of organization alcohol and risk management policies. Newer members were more likely to be influenced by older members in regards to social behavior. Older members were more likely to place value on holding a leadership role within their organization. Inter/national organizations and institutions should continue developing membership education programs utilizing student development and leadership theories to increase student self-efficacy and autonomous decision-making.

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### **People Matter: Examining First-Year Students Relationships with Upperclassmen**

**Purpose:** The first-year transition to college, lasting for the entirety of a student's first year, has remained a high priority topic among higher education practitioners. A review of the literature indicates a first-year student's transition to college can be tied to an academic and social challenges experienced during the first-year. This study explored the social components of transition for a first-year student. More specifically, the purpose of this study was to investigate the significance of first-year students' relationships with upperclassmen in relation to their transition to college.

**Subjects:** Via convenience sampling, three female and five male students in their first year of college at a mid-sized, public research institution in the Southeast participated in this study.

**Research Methodology:** This study used a qualitative method. To collect the data necessary to draw conclusions about the impact first-year students' relationships with upperclassmen have on first-year transition, there was one round of exploratory interviews lasting approximately 20 minutes. Interview questions directly related to the study's research question pertaining to their existing relationships with upperclassmen (sophomore and above).

**Summary of Findings:** The researchers found relationships with upperclassmen aren't the dominant factor in the quality of transitions for first-year students. Students' relationships with fellow first-years were equally or more important than those with upperclassmen. However, there was evidence to suggest that participants found relationships with upperclassmen to be very meaningful. More specifically, the first-year students in this study recognized the impact that upperclassmen as mentors. The majority of positive responses associated with upperclassmen relationships connected to components of guidance and mentorship.

**Conclusions/Implications:** This study reinforced the concept of social support being a mediating factor on the quality of a first-year student's transition to college. Therefore, it is paramount that practitioners strategically promote student involvement among first-year students. Involvement in campus communities and organizations connects first-year students with upperclassmen, which can have a positive effect on the quality of a first-year student's transition. Participants noted the meaning and value found in having relationships with upperclassmen. Practitioners should note the positive effects of these relationships and continue to promote first-year students making strong connections with upperclassmen, as these relationships are beneficial the first-year transition.

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### **Defining Success: Determining Transfer Student Priorities**

**Purpose:** The purpose of the study was to explore how transfer students define success at their transfer institution. The literature on transfer students has defined what success is for transfer students without taking into account whether transfer students are trying to meet those goals.

**Subjects:** For this study transfer students were defined as “individuals who have earned a high school diploma or an equivalent credential and have subsequently attended a college or university in a full-time or part-time status during a regular semester.” The study was conducted at a large, public, research institution in the Southeast with 2,900 transfer students. Of this population, 69 students participated in the campus study.

**Research Methodology:** Participants were contacted by email and were invited to follow a link to an electronic Google survey. The survey designed using a strategic combination of nineteen multiple choice questions, five Likert scale opportunities based on a five-point scale, and three open-ended questions which allowed for expansion of the participant’s feedback. The study tracked pre- and post-transfer information and experiences, providing an opportunity to contextualize students’ experiences.

**Summary of Findings:** Three primary trends were found in the data analysis. The most prevalent trend linked to success was academic performance. Although academic performance was a prevalent trend, findings showed that the overall GPA dropped upon transferring, yet many students still felt academically successful. The second most prevalent trend linked success to earning a degree and graduating. The third trend of success was being social, whether through involvement in co-curricular activities or simply establishing a friend group.

**Conclusions/Implications:** The results and analysis provided an opportunity to evaluate trends and information that influences how relevant offices interact with, support, and provide methods to influence the success of transfer students. By integrating the results, student affairs practitioners can develop new ways to help transfer students become more comfortable and connected once they have transferred. Collaboration between departments can be increased in the future to provide a more accessible and positive learning environment and experience for transfer students.



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### **International Graduate Students and Social Engagement in Higher Education**

**Purpose:** The study explored how graduate international students' Test of English as a Foreign Language (TOEFL) scores and their perceived English language level impacted their social engagement while at a higher education institution. Many institutes of higher education use the TOEFL score for admission and placement, therefore this study sought to conclude whether the test could be used to predict social engagement among international students.

**Subjects:** For this study 1,285 international graduate students were selected to participate in a survey based on official submission of a TOEFL score prior to admittance to the institution. With the focus being on English as a Second Language speakers, the researchers excluded permanent U.S. citizens from the study, however the participants ranged in visa type. Researchers also omitted participants who studied in an English speaking country before coming to the institution. With the restraints researchers used 66 participants out of the 127 who completed the survey to compile study findings; the majority of participants were Chinese or Indian students in the College of Engineering and Science.

**Research Methodology:** Researchers used an online surveying tool, Baseline, provided through Campus Labs. The survey consisted of 23 questions: 2 single answer, 7 multiple choice, 5 Likert scale (1 four point and 4 five point), and 1 open-ended. Researchers worked with the institution's Director of Institutional Assessment in order to test the survey's validity and strength. After a month of consultation the survey was sent out to participants. Once participants completed the survey, Baseline created percentages and graphs to reflect the quantitative results of the study. Also, the researchers coded results from questions with multiple answers and found trends in the brief qualitative portion of the study.

**Summary of Findings:** The findings fell into the three research questions regarding the TOEFL score, perceived English ability, and other predicting factors related to social engagement. The students who scored higher on the TOEFL were more likely to be socially involved on-campus with a club, international organization, or service project. For all students, regardless of their TOEFL score, the study found that they preferred to be friends with other international students over students from the U.S. or students from their home country. Finally, the results showed that students' perceived that their social engagement was not affected by their personality in their home county or when speaking in their native language.

**Conclusions/Implications:** The study provided evidence that international students' TOEFL scores impacted their social engagement in university clubs and organizations, however the study also showed that international students preferred to build camaraderie with other international students despite TOEFL scores or perceived English language ability. As a result, the study implies that the TOEFL score could be used at higher education institutions to predict international students' social engagement prior to their arrival on campus. Further testing needs to occur.

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### **The Sound of Wellness: How Music Affects Millennials' Wellbeing**

**Purpose:** Music has not only been shown to impact cognitive functioning (Kokatsaki & Hallam, 2007) and levels of engagement (Eccles and Barber, 1999), but for millennial students, those born between 1981 and 2000, music has become accessible in a variety of different ways as music technology has developed (Prior, 2014). While studies suggest that music has a positive impact on the human experience, they do not focus on holistic wellbeing. For the research team, the purpose of this study was to provide insight into a possible connection between music creation and consumption and the perceived wellness of millennial college students.

**Subjects:** 83 respondents (from a randomly-sampled group of 1400 students) represented the millennial population for this study. Subjects were all university students and represented the undergraduate and graduate populations.

**Research Methodology:** The researchers sampled a group of 1400 students, all affiliated with a university club or organization, through the use of Campus Labs technology. An incentive was used to encourage participation. The survey instrument featured 35 questions, including five-point Likert scales to measure students' perceptions of wellness, and multiple choice questions to identify music creation and consumption, extracurricular engagement, and student demographics.

**Summary of Findings:** Several areas emerged as factors affecting wellbeing for millennials. Students involved in leadership roles and Greek life reported higher community wellbeing. Musical genre preference was also influential, as fans of pop music reported lower wellbeing while fans of alternative music experienced a higher wellbeing. Those who currently played a musical instrument reported high wellbeing, although past experience with musical performance appeared to have had no impact. For living situations, students living with two or more roommates and those living on campus seemed to report the highest level of wellbeing. Respondents expressed that they perceived their generation to consume more music than other generations, particularly when accessing music through headphones and electronic devices.

**Conclusions/Implications:** The knowledge that extracurricular involvement, musical preferences, and living situation influence wellbeing provides opportunities for student affairs to better support students. The findings suggest we should be encouraging students to live with multiple roommates, get engaged in leadership opportunities, and play an instrument while in school. This study provides a basis for further research on the holistic wellbeing of millennials. Additionally, by promoting positive student engagement through campus organizations and residential experiences, as well as healthy stress management through music creation and consumption, student affairs professionals can cater their services to the millennial population and likely improve the overall wellness of their students.

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### **Beyond the Sticker: Ally and Allyship at a Southeastern Land-grant Institution**

**Purpose:** A campus climate survey can help institutions determine the environment and give valuable insight into the lived experiences of those on campus that identify in underrepresented identities. Many institutions create or improve training programs for the climate issues based on the survey results. The purpose of this study was to determine if the existing Ally Training program at the institution effectively addresses the perceived negative aspects of campus climate as evidenced by the campus climate survey.

**Subjects:** This research project was conducted at a large, public, land-grant institution in the Southeast. The study consisted of 3 individuals, 2 identifying as LGBTQ and 1 individual identifying as an ally. Other demographic information was not collected in order to protect the identities of the participants.

**Research Methodology:** Interviews were 30 minutes long and conducted by the researchers in teams of two. A single-stage sampling procedure and a nonprobability convenience sample was used. Stratification did not occur due to the inability to predict participant demographics. All researchers read the transcriptions of the interviews and created codes based on repeated phrases, words, and concepts.

**Summary of Findings:** Almost all the participants noted the presence of an ally sticker indicated to them that this person or space was tolerant of those who identify within the LGBTQ community. Participants also discussed a lack of support for their community at the institutional level, as well as a lack of allyship within the LGBTQ community for those who identify as bisexual or transsexual.

**Conclusions/Implications:** Given that participants indicated ally stickers conveyed feelings of tolerance and understanding of LGBTQ people and issues, the researchers concluded that the stickers are effective and recommend the continued use of them. The researchers also recommend that horizontal allyship in LGBTQ community would be a great future research project to explore at this institution given our interview feedback. Since participants who identified in the LGBTQ community and as active members of CGSA could not pinpoint a way that they have seen allyship in action, or had allies on campus directly advocated on their behalf, researchers recommend that there be a formalized effort to increase communication between those that facilitate ally training and the students who identify within the community.

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### **Comparing First-Generation and Continuing-Generation Students' Utilization of Campus Resources**

**Purpose:** Students are considered first-generation college students when neither of their parents earned a Bachelor's degree. First-generation students may have a more difficult time transitioning to and persisting in a higher education setting because their parents are unable to help them due to their lack of knowledge. Various campus resources are in place to assist students during their time at a college or university. The researchers identified campus resources, such as tutoring, supplemental instruction, and career services, based on literature and the services offered at the institution where the study was conducted. This study compared first-generation and continuing-generation students' utilization of various campus resources.

**Subjects:** The study consisted of 30 participants at a large, public, land-grant institution in the Southeast. Fifty percent of participants identified as first-generation students.

**Research Methodology:** Researchers contacted a sample of 400 students via email and invited them to complete an online survey hosted by the survey provider, CampusLabs. The questionnaire consisted of 32 "yes or no" and Likert-type scale questions which produced quantitative data about participants' utilization of resources and demographic information.

**Summary of Findings:** More first-generation students utilized academic resources (tutoring, supplemental instruction, and academic coaching), were more likely to receive knowledge of resources from faculty/staff members, and reported more benefit from resources as compared to continuing-generation students. Continuing-generation students reported using more non-academic resources, such as career services, and relied more on emails or flyers to learn about resources.

**Conclusions/Implications:** The results of this study indicated that first-generation students utilized more resources designed to improve their academic success and relied more on referrals from faculty/staff members to learn about resources. Faculty and staff members need to realize the importance of their role in referring first-generation students to resources. Faculty and staff members should also be knowledgeable of both academic and non-academic campus resources at their institution so that they can make appropriate, informed referrals. The researchers believe that future research should be conducted to examine the connection between first-generation students' utilization of resources and retention.

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### **Charlie Mike Tiger 15: A Look into Student-Veterans' Identity Development Through Self-Authorship**

**Purpose:** Student-veterans enrolling in higher education anticipate some difficulty with the transition. However, once coming to campus, student-veterans often face the unexpected challenge of identity reconstruction. “[W]hen I got out . . . I was lost. I was a Marine, I was a staff sergeant, I was a husband. And then I was like, you know, I’m none of those things.” This phenomenological study explored how student-veterans define their identities after serving in the military, how higher education institutions affect their experiences, and to what extent their transition impacted the process of self-authoring their identity.

**Subjects:** Four student-veterans (three men and one woman) from a population of approximately 250 self-identifying student-veterans at a large research university in the Southeast participated in the study. The participants were two undergraduate students, one graduate student, and one part-time graduate student. Two interviewees served in the Air Force and two served in the Marines. Participants’ ages ranged from 26 to 42. Two described their race as Caucasian, one as Caucasian and Asian, and one as multi-ethnic.

**Research Methodology:** Five semi-structured interviews were conducted in this qualitative study from a script with questions guided by Baxter Magolda’s Self-Authorship Interview (as cited in Baxter Magolda & King, 2007) and adapted for student-veteran participants. Each transcription was open coded to identify themes.

**Summary of Findings:** Five themes emerged in the results: *loss of purpose*, *disconnect to campus*, *social camouflage*, *orientation to education*, and *military influence*. Lack of stimulation, engagement, and challenge in their academic work compared to their responsibility in the military resulted in a *loss of purpose*. Age gaps between participants and traditional students on campus were main factors that led to *disconnect to campus*. Participants expressed *social camouflage* through reluctance to voluntarily reveal their veteran status. Three participants described their *orientation to education* as a means to an end. Finally, participants discussed the *military’s lasting influence* on their daily lives.

**Conclusions/Implications:** Military service has a significant impact on student-veterans’ identity development. Most importantly, student-veterans feel a loss of purpose and sense of identity when transitioning to college from military service. A critical part of ensuring student-veteran’s academic and lifelong success is helping them through this identity restructuring. Institutions should implement strategies to identify student-veterans in order to aid them in their unanticipated identity reconstruction, specifically focusing on relevant strategies student-veterans can use throughout their academic career.

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### **Inquiry in Motion: Increasing the Science Achievement of All Students by Improving Teacher Inquiry-based Instruction**

Student performance in science classrooms has continued to falter throughout the United States. Even though proficiency rates on national tests such as National Assessment of Educational Progress are higher for Caucasian students than African Americans and Hispanics, all groups lack achieving desired proficiency rates. Therefore, much work is needed in our classrooms to achieve the new more rigorous performance expectations found in the *Next Generation Science Standards*. Researchers have espoused for decades the importance of constructivist-based instructional methods such as inquiry to meet these expectations, yet current research is sparse concerning the effect of long-term interventions on the academic growth of students in science. This five year professional development study sought to link the involvement of teachers in a sustained intervention, designed to improve the quantity and quality of guided inquiry-based instruction in middle school science classrooms, to student academic growth. Specifically we wanted to see if we could link higher quality inquiry-based instruction with the narrowing of the achievement gap between student groups. Findings show statistically significant gains for all student groups (aggregate, males, females, Caucasians, African Americans, and Hispanics) on all three science MAP tests (composite, science practices, science concepts) when compared to students of non-participating teachers. When combined with other studies, this study affirms that when led effectively inquiry-based instruction may benefit all students, at least in regards to race and gender.

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### **Race, Poverty, and Academic Achievement: Identifying High Performing Middle Schools in South Carolina**

Although mean academic test scores for all students in the U.S. have improved over time, average scores for African American students are still lower than those of their White peers (Vanneman, Hamilton, Baldwin Anderson, & Rahman, 2009). For 8<sup>th</sup> graders in 2013, the difference in scores between African American and White students on the National Assessment of Educational Progress (NAEP) mathematics test was 31 points while the difference in reading scores was 26 points (Digest of education statistics, 2015). Closing this academic achievement gap is critical as it translates into poorer results for African Americans' health (Olshansky et al., 2012), education (Stiefel, Schwartz, & Ellen, 2006), and labor market outcomes (Neal & Johnson, 1996).

In addition to race, high concentrations of school poverty are associated with lower academic performance (Kena et al., 2014; Ladd, 2012; Puma et al., 1997). Students in the poorest schools score at substantially lower levels than those in more affluent schools. Schools with greater than 76 percent of their students eligible for free or reduced meals experience the largest decline in test scores (Anderson, Hollinger, & Conaty, 1992). For 8<sup>th</sup> graders in 2013, there was a 36 point difference in NAEP math scores between students in low-poverty schools and high-poverty schools and a 33 point difference in reading scores (Digest of education statistics, 2015).

Given the association between race, poverty and poor academic performance, African American students in schools with large low-income populations are especially at risk for low academic achievement. However, there are a number of highly disadvantaged schools in South Carolina in which African American students performed substantially better than would be predicted given the poverty status of the schools.

The sample used in this analysis was comprised of schools with 8<sup>th</sup> grade students taking the writing, ELA, and math portions of the Palmetto Assessment of State Standards (PASS) test in 2014. Average test scores were broken down by race for each school with a grand mean of all tests used for comparison. Analyzing White and African American scores separately resulted in a total of three very high poverty schools (>90%) whose average score for African American students exceeded the predicted scores for White students in schools at that income level. An additional 13 high poverty schools had African American students who scored higher than the mean score for African American students (609.9) and substantially higher than the predicted scores for these students.

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### **Banning the Box: Employers' Experiences after Implementation of Ban the Box Policies**

It is estimated that 65 million U.S. adults have criminal records, which equates to roughly one in four American adults. Of those incarcerated, more than half a million are released from prison annually. The ability to obtain stable employment is a primary factor in facilitating a successful transition to life after prison. However, studies show that Americans with criminal records face significant barriers to obtaining employment.

One method to reduce employment barriers, such as hiring bias against job applicants with criminal records, involves legally barring employers from inquiring about criminal backgrounds on job applications. This method, commonly referred to as "Ban the Box," has been implemented among states and municipalities in the public sector, the private sector, or both. Ban the Box policies do not eliminate questions about applicants' criminal backgrounds, but simply delay questions until after job applicants have obtained an interview or a conditional job offer.

Few studies have been conducted to examine the impact of Ban the Box policies on employers and job applicants. This pilot study uses a non-experimental design to examine employers' hiring experiences related to implementation of Ban the Box policies. An online survey of human resource departments in Minnesota, where a statewide Ban the Box law became effective January 1, 2014, was conducted. The goal of the research was to gather data about the type and extent of effects on hiring practices experienced by employers after implementation of Ban the Box policies. Anticipated outcomes are that few human resource departments will have experienced negative hiring impacts, such as increased costs, excess staff time, or increased workplace violence, after implementation of Ban the Box policies. This study informs employers regarding the costs and benefits they may experience as a result of Ban the Box policy implementation. The results of the pilot study will be presented via this poster presentation.



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### **The Influence of the Attitude of Tourist Couples on the Intention to Purchase Local Seafood: A Multi-Level Approach**

Despite the collective nature of tourism activity, the research focusing on group behavior in tourism literature is very rare. People usually travel with groups, mostly with their families who have influence on their travel decisions. Food as one of the unique aspects of a destination has become a marketing tool for tourism planners. The preference of local food among tourist will create positive impact on the region and exploring the underlying factors of this preference will be beneficial for future marketing plans. The purpose of this study was to understand the factors influencing local food purchase intention of tourist couples visiting coastal areas of South Carolina through the use of modified Theory of Reasoned action and provide a better understanding of their decision making process by using HLM as data analyzing technique.

Data was collected in Charleston and Beaufort from 180 tourist couples in October 2014. Results show that even if women have negative attitude towards oysters, their intention to purchase local seafood is not different than men. Positive variables have stronger influence on intention to purchase seafood at individual and couple level and as couples get older they influence each other in a positive way. This study provided theoretical implications by applying modified Theory of Reasoned action in tourism decision making process, methodological implications by bringing a new way to understand this process by testing the relationships at individual and couple level and practical implications by providing insight into tourist's intention to purchase aquacultured and wildcaught oysters during their vacation.

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### **American Dream'n: What be the Mean'n?**

This qualitative, multimodal semiotic research project explores how the US dream as a grand story affects individuals' understanding of their lives. The study utilizes Critical Narrative Analysis to examine: (1) how race, gender, class, equity, power, and privilege appear in a person's understanding of their life and the US dream; (2) the ways different pieces of the US dream appear in a person's understanding of their life; and (3) where individuals believe they learn about the US dream. Critical Race Theory and Bourdieu's structuralist constructivism help conceptualize the US Dream as a bio-dome. The bio-dome uses floor levels, staircases, elevators, pillars, walls, homes, and the bio-dome outer walls to explain and represent how the US dream is understood and experienced by individuals living in the United States. This image and metaphor help illuminate the affects of the US dream on a person's understanding of their life. Impacted areas include equity, equality, education, success, family, career, conceptions of a 'good life', and personal values/beliefs.

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### **Tourism Distribution Channels for Photographic Safaris**

Studies on tourism distribution channels in an African context and their contribution to the sustainability of tourism in this continent have been largely ignored. This study investigates the structure of tourism distribution channels for photographic safaris in the northern tourist circuit of Tanzania. It focuses on exploring distribution channels from the perspectives of photographic tour operators located in Arusha and Moshi. Primary data were collected through in-depth interviews with managers of these businesses. This paper contributes knowledge to the general literature on tourism distribution channels particularly on how products of safari tourism are distributed. The findings reveal: (1) that there are complex distribution systems that involve a number of intermediaries located in overseas markets, Kenya and the northern tourist circuit; (2) indirect distribution channels are more common in this tourist circuit; (3) distribution channels vary across different market segments; and (4) overseas travel and tour agents are observed to be the major booking and selling points for photographic safaris.

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### **Chronic Condition Predictors of Emergency Room Expenditures Among Uninsured People Aged 45-64**

Chronic health conditions among the uninsured aged 45-64 are likely to cause high costs for Medicare when these individuals turn 65. Proper prevention and management of these chronic conditions among middle-aged uninsured people constitutes not only an issue of equity but also of efficiency. The purpose of this study was to explore which chronic conditions are associated with emergency room expenditures among uninsured people aged 45-64 living in the U.S. We used the MEPS 2012 household component data to estimate the association between specific chronic conditions and ER expenditure (N=1102). To deal with the left-censored distribution of the dependent variable "total ER expenditure," we used a Tobit regression model to determine which chronic conditions predict ER expenditures among uninsured people aged 45-64. Independent variables included smoking, cardiovascular disease, diabetes, cancer, pneumonia, asthma, mental disorders, back problems, skin problems, and kidney disease. We controlled for the sociodemographic confounders gender, race/ethnicity, education level, geographic region, household income and marital status.

Cardiovascular disease ( $\beta=1453.237$ ,  $p=.017$ ), diabetes ( $\beta=2072.317$ ,  $p=.007$ ), and back problems ( $\beta=3215.644$ ,  $p=.000$ ) were found to be significant contributors to ER expenditure. Kidney disease was marginally significant ( $\beta=2805.303$ ,  $p=.060$ ).

ER expenditure signals an inefficient use of health care resources, and ER expenditure beyond age 45 among the uninsured could predict high cost for Medicare. Public health stakeholders should focus on controlling cardiovascular disease, diabetes, and back problems among the uninsured as these conditions are most significant predictors of ER use among the uninsured aged 45-64.

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### **The Efficacy of an Anti-Malarial Compound in Decreasing Cell Viability in a Rare Form of Breast Cancer**

Breast cancer is the most common form of cancer diagnosed in women. In 2014, there was projected to be 235,030 new diagnoses of invasive breast cancer among U.S. women and 64,640 new cases of *in situ* or non-invasive breast cancer (NCCN, 2015). Additionally, around 40,000 U.S. women were expected to die as a result of the disease. Although breast cancer remains a leading cause of death for women, there has been a decrease in both incidence and deaths related to the disease (Breastcancer.org). The decrease in mortality is suggested to be due, in part, to improved treatment regimens. The introduction of anti-estrogen therapy is one example of how improved understanding of the mechanism behind cancer development has led to more efficacious treatment. Despite breakthroughs like these, the need for effective and lasting therapy options for those diagnosed with breast cancer remains. Recent research has suggested a potent anti-malarial compound could potentially be useful in the fight against many different forms of cancer, including breast cancer.

Artemisinin, the active component of the traditional Chinese medicinal herb *Artemisia annua L.*, has been shown to be cytotoxic in a variety of cancer cell lines (Crespo-Ortiz & Wei, 2012). The water-soluble derivative, Artesunate, has been especially promising. Previous research in other labs has shown that Artesunate is able to induce mitochondrial-mediated apoptosis in multiple breast cancer cell lines by way of reactive oxygen species generation (Hamacher-Brady et al., 2011). Additionally, variability in cytotoxicity has been reported in different breast cancer lines treated with Artesunate. While many different breast cancer cell lines have been treated with Artesunate in the laboratory setting, there has not been a study to date that examines the effects of Artesunate in breast cancers having a germline mutation.

In order to determine the cytotoxic effects of Artesunate on a mutation positive breast cancer cell line, a cell line with a germline mutation resulting in a rare form of breast cancer was treated with varying concentrations of Artesunate (25 $\mu$ M, 50 $\mu$ M, 75 $\mu$ M, and 100 $\mu$ M). A control breast cancer cell line negative for the rare genetic mutation was then treated with the same varying concentrations of Artesunate. Spectrophotometry and flow cytometry were used to determine cell viability. It was hypothesized that there would be a difference seen in cell viability between the germline mutated and control cell lines. Results suggest Artesunate may be more cytotoxic to the mutated cell line compared to the control. Further research is needed to confirm this finding as well as to uncover the underlying molecular mechanism leading to the decreased cell viability seen. The high tolerance seen in malarial patients treated with Artesunate as well as the newly discovered cytotoxic effects in cancer cells make this a potentially useful drug in breast cancer treatment.

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### **Impact of a Novel After School Program: Smart Fit Girls**

Individuals who are highly physically active are more likely to have a greater self-esteem, better body image, and increased physical activity self-efficacy. Currently, the average PE program provides less than 12% of the recommended daily amount of physical activity, with adolescent girls being the least active. The primary purpose of this research is to explore the efficacy of an after-school program, Smart Fit Girls (SFG), which aims to improve adolescent girls' physical activity habits, self-esteem and body image. A secondary purpose is to examine how physical activity and mother/daughter relationships affect adolescent girls' physical and emotional health. Girls attending Riverside Middle School in Pendleton, SC and their mother or female guardian were recruited for this study. The girls were 10-14 years old, in good academic standing, and were not involved in school athletics. To explore the impact of SFG all participants and their mothers will complete two rounds (pre/post) of questionnaires and focus groups. A control group of daughters and mothers at R.C. Edwards in Clemson, SC will participate in quantitative and qualitative data collection as well. Preliminary data demonstrate an 11% increase in self-esteem and statistically significant improvements in body image between pre and post measurements in girl participants.

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### **Translating Individual Differences to Personalized Medicine in Hydrocodone Use**

Genetic variation may play a larger role in determining individual variation in drug responses than currently understood. Here we proposed to utilize retrospective study to analyze whether individual differences are responsible for the drug effect of hydrocodone, and whether pharmacogenetic testing could prove beneficial in improving drug efficacy and reducing adverse drug responses of hydrocodone, which could help patient to relief from chronic pain or pain after surgery.

The objectives of our research are to examine the relationship of drug effect of hydrocodone between individual differences, like CYP2D6 genotype, race and age, and evaluate the efficiency of pharmacogenetics using CYP2D6 polymorphisms in hydrocodone uses.

The long-term goal is to determine the optimal testing and evaluation methods for treatment options of hydrocodone. Thus, the proposed investigation will improve drug efficacy and reduce adverse drug responses of hydrocodone or using other medication if hydrocodone is inadequate.