## Winthrop McNair Summer Research Symposium

**Whitton Auditorium & Macfeat House – Winthrop University**

1:00 – 4:45 pm June 19, 2017

### Presentation Schedule & Brief Abstracts

<table>
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<tr>
<th>Approx. Start Time</th>
<th>Winthrop McNair Scholar</th>
<th>Major</th>
<th>Mentor</th>
<th>Winthrop McNair Summer Research 2017 Project Title</th>
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<tr>
<td>1:05 PM</td>
<td>LaRaven Temoney</td>
<td>Business Administration (Economics)</td>
<td>Dr. Laura Ullrich</td>
<td>All Talk, But No Action: A Reexamination of Education in South Carolina’s Corridor of Shame</td>
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<tr>
<td>1:20 PM</td>
<td>Naseem Adkinson-Jobe</td>
<td>Marketing</td>
<td>Dr. Stephanie Lawson</td>
<td>Brand Communities and Collaborative Consumption: How Companies can Access Profit by Providing Access</td>
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<tr>
<td>1:35 PM</td>
<td>Eva Owusu</td>
<td>Integrated Marketing Communications</td>
<td>Dr. Sabrina Habib</td>
<td>Promoting a President: Tone in Presidential Candidate Correspondence via Twitter</td>
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<tr>
<td>2:00 PM</td>
<td>Brittany McCarver</td>
<td>History (College of Charleston)</td>
<td>Dr. Andrew Doyle</td>
<td>Mill Village Life in Piedmont South Carolina</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>Ximena Perez-Velazco</td>
<td>Human Nutrition</td>
<td>Dr. Lauren Sastre</td>
<td>Combating Childhood Obesity: An Evaluation of the Incorporation of a Nutrition Education and Counseling Program at a Pediatric Clinic</td>
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<tr>
<td>2:30 PM</td>
<td>Ana (Frances) Barkley</td>
<td>Music Education</td>
<td>Dr. Scot Rademaker</td>
<td>Shifting the Margins: Music Educators’ Self-Reported Inclusion Practices for Marginalized Students in Southeastern Public High Schools</td>
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<tr>
<td>2:45 PM</td>
<td>Jessica Stevens</td>
<td>Mathematics and Chemistry</td>
<td>Dr. Zachary Abernathy</td>
<td>A Mathematical Model for Tumor Growth and Treatment Using Virotherapy</td>
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<tr>
<td>3:10 PM</td>
<td>Maryssa Shanteau-Jackson</td>
<td>Biochemistry</td>
<td>Dr. Takita Felder Sumter</td>
<td>Utilizing 5-fluorodeoxuryidine (FdUrd) to understand the role of HMGA1 overexpression in antineoplastic drug resistance</td>
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### Oral Presentations will be delivered in Whitton Auditorium Starting shortly after the Welcome at 1 pm

### The Poster Session & Reception will be held in Macfeat House immediately following the Oral Presentations

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<tr>
<th>Poster Session &amp; Reception</th>
<th>Quviah Streater Planning Psychology</th>
<th>Dr. Sarah Reiland</th>
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<td>Jalen Smith</td>
<td>Psychology</td>
<td>Dr. Matthew Hayes</td>
<td>A Comparison of Facebook Profiles of Arrested and not Arrested Individuals</td>
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<td>Marissa McNeace</td>
<td>Psychology</td>
<td>Dr. Jeff Sinn</td>
<td>Moral Foundations Theory vs. Schwartz Value Theory: Which theory best explains ideological differences?</td>
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<tr>
<td>Gabby Lee</td>
<td>Social Work</td>
<td>Dr. Kori Bloomquist</td>
<td>Is it Really the Family’s Fault? Adversity and Resilience in the Social Environment</td>
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<tr>
<td>Kellie Cooper</td>
<td>Exercise Science</td>
<td>Dr. Janet Wojcik</td>
<td>Turn Stress into Sweat: The Effects of Physical Activity Classes on Stress in College Students</td>
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The Poster Session & Reception starts at approx. 3:35 PM and ends at 4:45 PM.
Winthrop McNair Scholar: **Naseem Adkinson-Jobe**

Major: Marketing

*Mentor: Dr. Stephanie Lawson*

Title: **Brand Communities and Collaborative Consumption: How Companies can Access Profit by Providing Access**

Abstract: This research focuses on how companies can serve consumers of their brand community via collaborative consumption. Although the research on collaborative consumption is substantial, the relationship between access-based services and brand communities has yet been investigated. This topic will be studied by surveying members of brand communities on their willingness or unlikeliness to access products of their brand community via collaborative consumption. The findings will contribute to the literature of collaborative consumption, by describing the impediments and drivers for consumers of a brand community to retrieve brand community products via access-based service systems.

Winthrop McNair Scholar: **Frances “Ana” Barkley**

Major: Music Education

*Mentor: Dr. Scot Rademaker*

Title: **Shifting the Margins: Music Educators’ Self-Reported Inclusion Practices for Marginalized Students in Southeastern Public High Schools**

Abstract: There exists a significant under-representation of racial minorities, students with disabilities, low-income students, and English Language Learners in the average American music program (Elpus & Abril, 2011; Hoffman, 2011). This study examines the self-reported inclusion, diversification, and accommodation strategies of public high school music teachers in the southeast. Music educators from roughly fifteen of the largest public high schools in twelve southeastern states were recruited to share their experiences. These findings may provide information necessary for designing equitable public music curricula that is equipped to serve all students.
Winthrop McNair Scholar: **Kellie Cooper**

Major: Exercise Science

*Mentor: Dr. Janet Wojcik*

Title: Turn Stress into Sweat: The Effects of Physical Activity Classes on Stress in College Students

Abstract: This project examines the relationship between exercise and stress in college students. Stress can have detrimental effects on the physical and mental health and the academic performance of many students. Surveys that examine the relationship between physical activity and stress were distributed to college students who were enrolled/participants in for-credit and/or recreational physical activity classes. Results were analyzed for a difference in stress levels between races as well as between for-credit and recreational physical activity classes. These findings could provide evidence in favor of altering physical activity classes at universities to improve student health and performance.

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Winthrop McNair Scholar: **Gabrielle Lee**

Major: Social Work

*Mentor: Dr. Kori Bloomquist*

Title: Is it Really the Family’s Fault? Adversity and Resilience in the Social Environment

Abstract: The purpose of this study is to explore the lives of women of color from South Carolina and their individual experiences in terms of their social environments. Much adverse childhood experiences (ACEs) research is focused on the family system. Research regarding the social environment is typically limited in scope failing to address the holistic approach to promoting child well-being and addressing the effects of ACEs. Two established instruments and an interview will be used to identify overarching themes that describe possible connections between adversity, resilience, adverse social environments, and self-reported health. The implications of findings will be discussed.
Winthrop McNair Scholar: **Brittany McCarver**

Institution: College of Charleston

Major: History

*Mentor: Dr. Andrew Doyle*

Title: Mill Village Life in Piedmont South Carolina

Abstract: Springs Industries, founded in 1887 in Fort Mill, South Carolina, was one of the many textile firms that sprang up in the Piedmont as urbanization and industrialization swept the postbellum South. It eventually became one of the largest textile manufacturers in the country. This study focuses on the lives of workers outside of the mills, examining how Springs workers experienced life in the mill villages. It evaluates the various benefit programs implemented by the company and the effect they had on the workers. The focus of the study is how mill-sponsored welfare work affected the daily lives of the workers.

Winthrop McNair Scholar: **Marissa McNeace**

Major: Psychology

*Mentor: Dr. Jeff Sinn*

Title: Moral Foundations Theory vs. Schwartz Value Theory: Which theory best explains ideological differences?

Abstract: This research examines ideological differences between liberals and conservatives. We accomplish this by using Schwartz Value Theory (SVT) to critique claims made by Moral Foundations Theory (MFT) about the origins of ideological differences. Based on the SVT, we created four Moral Forces scales (MF4) using the format of the MFT. Data was collected through social media and university classes. Our findings suggest that MFT measures moralizing rather than moral foundations. Additionally, the MF4 accounts for differences in ideology unexplained by MFT and that MFT fails to identify additional moralizing detected by the MF4.
Winthrop McNair Scholar: Eva Owusu

Major: Integrated Marketing Communications

Mentor: Dr. Sabrina Habib

Title: Promoting a President: Tone in Presidential Candidate Correspondence via Twitter

Abstract: The purpose of this research is to provide insight into the approaches of social media use in a political environment and the impact of different tones in a presidential campaign. Using the Twitter correspondence between the Republican and Democratic nominees, a content analysis was used to discover positive and negative tones and themes during the 2016 presidential election. Analysis includes tweets from primary elections to election day. This research adds to the foundation of previous studies focused on gaining insight into the growing impact of social media in political communications.

Winthrop McNair Scholar: Ximena Perez-Velazco

Major: Human Nutrition

Mentor: Dr. Lauren Sastre

Title: Combating childhood obesity: An evaluation of the incorporation of a nutrition education and counseling program at a pediatric clinic

Abstract: The prevalence of childhood obesity has doubled over past two decades; one in four children is obese. Obesity is often first identified in pediatric care and weight management counseling and is primarily the burden of the physician. Dietitians have specific training and expertise to counsel and educate patients to support dietary behavior changes, however, literature regarding the incorporation of their services to combat pediatric obesity in primary care setting is limited or non-existent. This research seeks to evaluate the inclusion and the process of incorporating such services into primary care - a necessary step to address this issue.
Winthrop McNair Scholar: **Maryssa Shanteau-Jackson**

Major: Biochemistry

*Mentor: Dr. Takita Felder Sumter*

Title: Utilizing 5-fluorodeoxyuridine (FdUrd) to understand the role of HMGA1 overexpression in antineoplastic drug resistance

Abstract: Cancer cells are often treated using molecules that damage DNA and block their replication. The antimetabolite, 5-Fluorouracil (5-FU), is a mainstay in cancer treatment whose activity is based on the misincorporation of fluoronucleotides into DNA and RNA during their synthesis. Chemoresistance is a major obstacle to 5-FU, but the mechanism is unknown. Because high mobility group A1 (HMGA1) is over-expressed in many cancers and is associated with DNA-damage repair pathways, the role of HMGA1 in resistance to 5-FU was explored using DNA binding and cytotoxicity assays. The results of this study will broaden understanding of HMGA1-dependent cancer pathways.

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Winthrop McNair Scholar: **Jálen Smith**

Major: Psychology

*Mentor: Dr. Matthew Hayes*

Title: A Comparison of Facebook Profiles of Arrested and not Arrested Individuals

Abstract: This study examined whether Social Bond Theory (SBT) or Differential Association Theory (DAT) better explain deviance as it pertains to social networking sites (SNS). SBT predicts getting arrested will reflect weaker connections to conventional society. DAT predicts getting arrested will reflect stronger connections to unconventional society. Pictures, posts, and pages liked were observed and coded as either conventional or unconventional with reliability being established through a second rater. This research will contribute to a better understanding of social relationships and human behavior on SNS in connection to deviance and social norms. The implications of findings will be discussed.
Winthrop McNair Scholar: **Quviah Streater**

Major: Psychology

*Mentor: Dr. Sarah Reiland*

Title: Self-esteem mediates the relationship between insecure attachment and depression

Abstract: The purpose of this study is to examine whether self-esteem mediates the relationship between adult attachment and depression symptoms in a sample of 136 college students. The Beck Depression Inventory (BDI), Rosenberg Self-Esteem Scale (RSE), and Adult Attachment Scale (AAS) were used. Results showed a positive relationship between depression symptoms and insecure attachment in relationships, with self-esteem partially mediating that relationship. These findings suggest that insecure attachments may increase the risk for depression through an impact on self-esteem. Improving relationship patterns and self-esteem could contribute to the prevention and treatment of depression.

Winthrop McNair Scholar: **Jessica Stevens**

Major: Mathematics and Chemistry

*Mentor: Dr. Zachary Abernathy*

Title: A Mathematical Model for Tumor Growth and Treatment Using Virotherapy

Abstract: We present a system of four nonlinear ordinary differential equations to model the use of virotherapy as a treatment for cancer. This model specifically describes the interactions among infected tumor cells, uninfected tumor cells, effector T-cells, and virions. Using local and global stability analysis techniques, we establish conditions on model parameters to ensure a stable cure state of the full model as well as various submodels. We illustrate these dynamics through numerical simulations of the model using estimated parameter values from the literature, and we conclude with a discussion on the biological implications of our results.
Winthrop McNair Scholar: **LaRaven Temoney**

Major: Business Administration (Economics)

*Mentor: Dr. Laura Ullrich*

Title: All Talk, But No Action: A Reexamination of Education in South Carolina’s Corridor of Shame

Abstract: South Carolina’s ‘Corridor of Shame’ is an area of r(1 and poverty-stricken communities that stretch along Interstate 95. In 2014, the State’s Supreme Court ruled that a “minimally adequate” education was not ensured for these school districts. The purpose of this research project is to analyze whether or not changes were made that had positive effects on the overall quality of education. By looking at different variables (e.g. poverty index, absolute rating, teacher salaries), available data shows that an adequate education has still not been provided for all students and has contributed to the continuous economic instability in these areas.

**The Winthrop McNair Scholars Program** prepares outstanding first generation, low-income, and underrepresented undergraduates to be successful in PhD programs through a variety of resources and supports including, but not limited to, an intensive summer research internship, workshops, graduate admissions assistance, test preparation, and travel to present research and explore graduate programs. Winthrop’s program is funded through 2018 by a 5-year renewable TRiO grant from the U.S. Department of Education (PR/Award No.: P217A130111). $226,600 in federal funding is provided each year to help 30 eligible students complete research and prepare for graduate study. This year, federal funds represent approximately 72% of program costs. Winthrop and the Winthrop Foundation will contribute the remaining 28% of the budget with over $85,000 in cash and in-kind matches.

The 2017 Winthrop McNair Summer Research Symposium presenters listed here are supported by their McNair faculty mentors (listed with their Scholar’s project) and program staff. Staff include Barb Yeager, Executive Support Specialist; Amanda Cavin, Office Assistant; Dr. Matthew Hayes, Stats & Methods Coach; Stephanie Bartlett, Head Writing Coach & Research Bulletin Editor; and Dr. Cheryl Fortner-Wood, Director. Special thanks also go to Dean Gloria Jones (Dean, University College) and Dr. Jason Hurlbert (Associate Professor, Chemistry) for helping the Scholars build strong research communication skills. Next, the Scholars will be presenting their research with students from around the country at the 23rd Southeastern Equal Opportunity Programs and Personnel (SAEOPP) McNair/SSS Scholars Research Conference in Atlanta.

Winthrop’s program is successful because of the excellent work and persistence of our Scholars; expertise of our Mentors; dedication of our staff; support from our Dean, administration, and campus; funding from the U.S. Department of Education, Winthrop, and the Foundation; and guidance from our Advisory Board whose work includes selecting each cohort of Scholars. The 2016-17 Advisory Board members are: Dr. Adolphus Belk, Dr. Tyrone Ceaser, Dr. Heather Evans-Anderson, Ms. Rose Gray, Dr. Wenonah Haire, Dr. Willis Lewis, Mrs. Nicole McMullen (Scholar), Dr. Karen Stock, Dr. Takita Sumter, Dr. Will Thacker, Dr. Brad Witzel, Dr. Cheryl Fortner-Wood, and Dr. Gloria Jones. For more information about Winthrop’s program, visit [www.winthrop.edu/mcnair](http://www.winthrop.edu/mcnair), [http://digitalcommons.winthrop.edu/mcnair/](http://digitalcommons.winthrop.edu/mcnair/), or email fortnerc@winthrop.edu.