

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Kiera Alexander**

Major: Nutrition

Mentor: Dr. Ashley Licata

Title: Impact of COVID-19 on Food Insecurity and Resiliency in College Students

Abstract: *Background:* Research has assessed food insecurity and its impact on college students. Research is needed to assess the correlates of food insecurity and levels of resilience within this population before and in the presence of a pandemic. *Objective:* To assess the prevalence of food insecurity and resilience among college students and compare the relationships of these factors prior to and in the midst of COVID-19. *Participants:* 284 students attending a postsecondary institution in the southeastern region of the United States. *Methods:* A cross-sectional questionnaire including a self-administered survey on Qualtrics consisting of 27 items distributed to a sample of university students. *Results:* Statistical significance was found for food insecurity ($p=0.002$), levels of anxiety ($p=.049$), and amount of time slept ($p=0.006$). Before COVID-19 (Round 1), 56.1% of the participants were food secure while 34.2% were low food insecure and 9.6% were high food insecure. Comparably 74.7% of the participants were food secure, 22.1% were low food insecure and 3.2% were high food insecure during COVID-19 (Round 2). Resilience data showed a decrease in feelings of stress (80.7% to 70.5%) and an increase in feelings of depression (48.2% to 53.6%), anxiety (65.7% to 77.6%), and amount of time slept (66.3% to 76.9%). *Conclusion:* Food insecurity is a major issue that has decreased significantly among college students during the COVID-19 pandemic. Students reported feeling less stress and an improvement in the amount of hours slept but their feelings of depression and anxiety worsened. Future studies are needed to assess the causes for the changes in food insecurity and resilience factors during the global pandemic.



Winthrop McNair Scholar: **Kalin (McKenzie) Bennett**

Major: Political Science

Mentor: Dr. Michael Lipscomb

Title: Constituent Personality Preferences for South Carolinian Political Leaders

Abstract: This paper analyzes personality traits that South Carolina voters look for in political candidates—within the framework of the traditionalistic political culture—through the use of online surveys and the conjoint-experiment approach. Which—if any—personality traits do SC political leaders need to exhibit in order to attract constituents? Likewise, are constituents' preferences for certain personality attributes in their leaders shaped by differences in political cultures across regions? This research study predicts that the South Carolinian traditionalistic political culture will cause eligible voters to prefer political leaders who display high levels of extraversion and agreeableness, moderate levels of conscientiousness, and low levels of openness to experience and neuroticism. The methodology in collecting data will be implemented in the form of a pilot survey and a subsequent conjoint-experiment that will estimate the causal effects of each leadership trait—extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience—on voter preferences. The literature review segment of this paper will explain how the theories of traditionalistic, individualistic and moralistic political cultures vary across regions and apply these theories to eligible voter personality preferences across regions.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Kendarius Butler**

Major: Chemistry

Mentor: Dr. Christian Grattan

Title: Inhibition of SPHK1 for anti-inflammatory therapy

Abstract: Sphingosine kinase is a naturally occurring enzyme that exists along the sphingomyelin pathway that is responsible for actively converting sphingosine into sphingosine-1-phosphate. S1P is linked to the metastasis of cancerous cells and tumors throughout the body. This substance is also anti-apoptotic, meaning that the death of cells is not promoted when this substance is in excess. Using UCSF Chimera, Marvin Sketch, Molinspiration, and Autodock Vina, data was collected about the binding energies of the proposed sphingosine kinase 1 inhibitor molecules. The properties of these structures were calculated using Molinspiration, and Marvin Sketch was used to build the structures. The LogP value, and molecular weight were the two properties being recorded. The lowest recorded LogP was 1.32, and the highest recorded LogP was 5.58. Notably, this violates Lipinski's Rule of Five. After docking the inhibitor into the enzyme using Chimera and Autodock Vina, the binding energies of the molecules were reported. It was found that the lowest binding energy was -18.3, while the highest was -14.2. Using this information, it was noticed that there may be a correlation between polarity and binding energy.



Winthrop McNair Scholar: **Yashuri Del Rosario Rodriguez**

Majors: Mass Communication & French

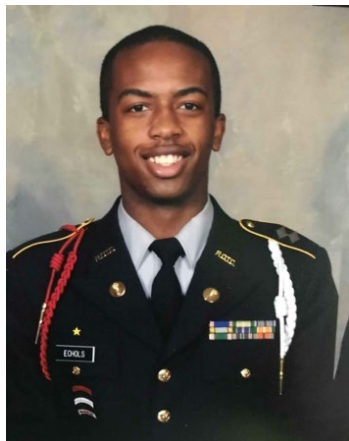
Mentor: Dr. Nathaniel Frederick

Title: Latinidad and Portrayals of Second and Third-Generation Latinx Immigrants in *One Day at a Time*

Abstract: *One Day at a Time* chronicles the experiences of a Cuban-American family living in Los Angeles. This sitcom allows the researcher to observe and evaluate portrayals of Latinidad and the Latinx experience in the first two seasons of the show. As the largest minority group in the United States, Latinx people have been underrepresented in the media, particularly entertainment media. Entertainment media has not reflected the multi-dimensional identity of the second- and third-generation Latinx immigrants. Latinidad, a concept that incorporates the shifting attributes of Latin-ness, is the changing notion that the Latinx experience goes beyond the stereotypes and incorporates Latinx individuals through the intersectionality of race, sexual orientation, gender, and more. The researcher used narrative analysis to examine a modern-day interpretation of the Latinx identity and experience in Netflix's *One Day at a Time*. The qualitative method finds and examines three major themes that reinforce the issues and changes that affect the Latinx experience of second- and third generation immigrants. This study hopes to contribute to media studies and the manner in which underrepresented minority groups are portrayed - as individuals and their overall experience - in entertainment media. The research will also enhance the researchers' understanding of the topic.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



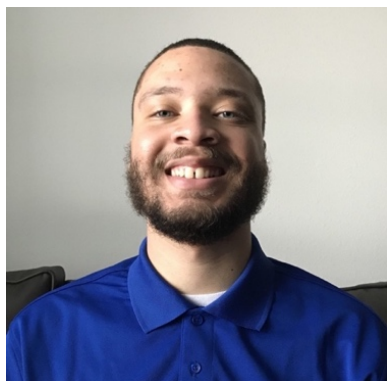
Winthrop McNair Scholar: **Titus Echols**

Major: Elementary Education

Mentor: Dr. Sarah Marie Catalana

Title: The Impact of Distance Learning on Students with Low-Socioeconomic Backgrounds: An Autoethnography Exploration

Abstract: As more sophisticated technology for distance learning makes its mark, the role of the teacher is being expanded to include skills and strategies appropriate to teaching students online. Some teachers welcome the opportunity, while others are challenged by distance teaching. In 2020, the advent of the COVID-19 pandemic forced an immediate change to distance teaching upon every teacher at all levels of education. This research intends to examine the effects of distance teaching by capturing the perspective of college students who had to complete their Fall 2020 semester online. In particular, questions will be asked to determine positive and/or negative impact on learning for students with a low socioeconomic background. Data will be captured through autoethnography, a form of qualitative research which analyzes data through a thematic coding system.



Winthrop McNair Scholar: **Brandon Ellison**

Majors: Chemistry

Mentor: Dr. Nicholas Grosseohme

Title: Predicting a viable pH-induced peptide switch to be incorporated with human L-chain ferritin

Abstract: There has been a continued interest in the development and refinement of “smart” drug delivery systems (DDS) that can be engineered to target specific cells and tissues. Ferritin, a ubiquitous iron-storage protein, is an attractive candidate for drug delivery due to its stable caged structure, its ability to encapsulate small molecules, and its genetic modification potential. Previous research indicates that replacing the E-helix of human L-chain ferritin with an alternate peptide sequence will trigger the disassembly of the protein cage below a pH of 6. This modification adapts ferritin to be a well-suited DDS under physiologically relevant conditions. Previous attempts have been made to characterize the modified ferritin in our lab; however, all purification attempts, including published protocols, have failed to yield a sufficient amount of soluble protein for further experimentation or characterization. In this study, we have employed bioinformatic tools and open-access web programs, including JPred4 and H++, to propose alternative peptide sequences that could retain a pH-switch, while increasing the solubility of the protein. This presentation will highlight some of our findings; specifically, a variety of attractive candidates have been identified. These sequences will serve as the basis for future experimentation in the lab.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Carlos Escoto-Diaz**

Major: Biology

Mentor: Dr. Matthew Stern

Title: Application of Mesenchymal Stem Cells in Small-Diameter Tissue-Engineered Vascular Grafts: Current and Proposed Research

Abstract: Cardiovascular disease remains a leading cause of mortality in developed countries. The treatment for patients with developed atherosclerotic coronary vasculature remains bypass surgery. The optimal graft source must then prevent need for re-intervention by maintaining patency and low thrombogenicity and immunogenicity to prevent systemic rejection. Tissue-engineered vascular grafts (TEVGs) eliminate the need for patient-sourced grafts as they provide a method in which autologous cells can be paired with an acellular scaffold to form a viable replacement. The application of mesenchymal stem cells (MSCs) is of interest for tissue engineering as they can be independently used or co-cultured with other cell types. Adipose-derived mesenchymal stem cells (ADSCs) are easily isolated from individuals of any age and can be directed to differentiate into relevant cell types and/or to exert beneficial trophic effects through the factors they secrete. Based on our previous work and a review of current literature, we propose completion of the following specific aims to investigate the application of ADSCs in tissue TEVGs: 1) to seed acellular porcine internal thoracic artery (PITA) scaffolds with ADSCs that are differentiated into smooth muscle cells upon integration; and 2) to investigate the effects of factors secreted by ADSCs on the reendothelialization of PITA scaffolds.



Winthrop McNair Scholar: **Katrina Gainey**

Major: Social Work

Mentor: Dr. Anthony Hill

Title: Undergraduate Students' Perceptions, Knowledge, and Attitudes towards Human Trafficking

Abstract: Human trafficking is a violation of human rights because the victims are stripped of their dignity, abused, and forced to work. There is a dearth of research on human trafficking because it is an insidious business, and victims are reluctant to come forward. Human trafficking happens on America's college campuses at alarming rates. Human trafficking permeates all segments of society because it can happen in our backyards. With human trafficking happening on college campuses around America, additional research is needed to understand undergraduate students' perceptions, knowledge, and attitudes about the topic. The study's results can inform programs and other interventions to increase understanding of the warning signs, impact, and safeguards to lessen the effects of human trafficking. The researcher distributed a survey electronically using social media and to measure undergraduate students' perceptions, knowledge, and attitudes toward human trafficking. The researcher measured the relationships or correlations between human trafficking and students' perceptions, knowledge, and attitudes. This research will contribute to the body of knowledge because it helps to reveal undergraduate students' perceptions, knowledge, and attitudes on human trafficking, which could serve as the foundation for programs and other interventions that endeavor to decrease the prevalence of human trafficking. Equally important, this research will heighten researchers' understanding of the topic.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Alexis Garrick**

Major: Sport Management

Mentor: Dr. Jinwook Jason Chung

Title: Parental Influence on Youth Sport Activity Pattern Before and During Covid-19

Abstract: Life has drastically changed since the start of the coronavirus (COVID-19) pandemic, resulting in many families to fall into physical inactivity. This study examines the correlation between parents and their children's sport activity pattern before and during COVID-19 along with comparing the differences in parents of low and high involvement through sport involvement and sport experience (recreational and professional/elite). Information was gathered from parents who have children that are <17 ($n = 215$). The study evaluates the role of parental influence through involvement, engagement, socio-economic status, and family structure. While also comparing their child's preferred activities before and during COVID-19 outside of sports/sport-related activities. Results suggest that the halt of physical activity has increased engagement in other activities outside of sports/sport-related activities, while indicating that children who have parents that have high sport involvement are more likely to participate over parents who are less involved. However, parents of low involvement are more likely to participate on the recreational level than the parents of high involvement. These findings suggest that there is a positive relationship between parental influence on their child's behavior towards sports/sport-related patterns and activities, and to prevent physical inactivity there should be promotive measures for families to engage.



Winthrop McNair Scholar: **Kai Griffin**

Major: Fine Arts

Mentor: Dr. Brandon Ranallo-Benavidez

Title: Queer Art Exhibitions: Diverse Inclusion or White, Gay Canon

Abstract: Are the queer art exhibitions held at major contemporary and modern art museums in the United States truly diverse in their inclusion of queer identified artists or are they simply perpetuating the hegemony of the white, gay, male? The question warrants research as it illuminates gaps in the western artworld's attempts of showing progressive, inclusive, and comprehensive standards, practices, and ideals. An intensive survey of ten major U.S. contemporary and modern art museums, their "queer" art exhibitions, the artists represented within each exhibition, and the cumulative intersectional axes attributed to the artists were examined via archival studies and inductive analysis. Within the contexts of this research, "queer" is related to people who do not fall within the white, cisgender, and heterosexual normatives. The findings prove to be anything but progressive or ideal, as analyses reveal marketability, viability, and profitability greatly influence the curatorial practices of inclusion regarding non-normative, non-binary, queer artists. The white, cisgender, gay, male as the emblematic "queer" artist remains the default tokenized attempt of progressive representation by contemporary and modern art institutions. Along with curatorial practices being challenged, a larger theoretical inquiry into who are the gatekeepers of the art world and what established systems within it need to be deconstructed are merited.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Chelsea Harris**

Major: Psychology

Mentors: Dr. Giancarlo Anselmo (Winthrop) & Dr. Jamie Yarbrough (Appalachian State University)

Title: Student Risk Screening Scale at the Middle School Level

Abstract: Mental health disorders are the most common disease of childhood. It has been found that 49.5% of American youth have a diagnosable disorder, yet only 7.4% of children have professional care mental health visits (Merikangas et al., 2010). A lack of early identification prevents these children from receiving the support they need to be successful. The use of universal screening tools can help detect and connect these students to the appropriate supports. The Student Risk Screening Scale (SRSS) is a free, brief behavioral screening instrument. Despite previously found psychometric evidence, little research has examined the interrater reliability of the SRSS. Our study used a sample of 247 sixth grade students from a Southeastern middle school. Each participant was rated by two teachers. We examined the interrater reliability between raters, as well as the predictive validity of total suspension rates and days missed in school with SRSS scores. In addition, we examined the degree to which the SRSS scores differ between gender and special education status. Results indicate acceptable ranges for interrater reliability, as well as correlations between both externalizing and internalizing scores with total suspension rates. In addition, significant differences were found between externalizing scores for gender as well as special education status. Further results and implications will be discussed.



Winthrop McNair Scholar: **Keonna Jordan**

Major: Psychology

Mentor: Dr. Merry Sleigh

Title: Perceptions of Pain Experienced by African American and Caucasian Women

Abstract: The physical pain of Black adults is routinely underestimated by doctors, medical students, and adults (Hoffman et al., 2016; Staton et al., 2007). We examined perceptions of physical and emotional pain experienced by Black and White women at different ages. Adults ($n = 98$) with a mean age of 21.83 ($SD = 3.30$) were randomly assigned to read three stories across the lifespan where the target character was either a White or Black female and experienced either physical or emotional pain. We assessed participants' empathy (Caruso & Mayer, 1998), sexism (Glick, 1996), and symbolic racism (Tarman & Sears, 2005). Participants believed that Black children and adolescents were tougher at dealing with physical pain than their White counterparts. Black participants and those with lower symbolic racism agreed more, suggesting that the image of the strong Black woman may have a positive origin. However, our participants expressed concern about these perceptions in open-ended comments. White children were perceived as better at handling emotional than physical pain, and White adolescents as better at dealing with emotional pain and needing less protection from it than Black adolescents. Perhaps there is recognition that Black adolescents are forming their identity while dealing daily with the emotional stressors of racial inequality, making it harder to deal with additional emotional pain.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



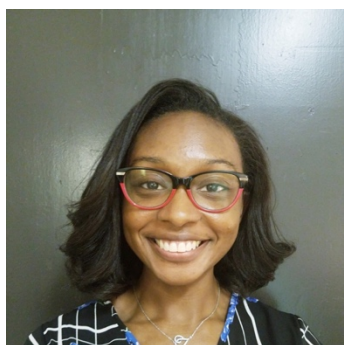
Winthrop McNair Scholar: **Jomar Lewis**

Major: Biology

Mentor: Dr. Christian Grattan

Title: The Modification of SKI-1 for the Inhibition of Sphingosine Kinase 1

Abstract: Sphingosine-1-phosphate is a bioactive lipid mediator that has been shown to play a critical role in cell migration, survival, and proliferation. It is phosphorylated from sphingosine, which has the opposite effect on cells. Sphingosine inhibits cell proliferation and causes apoptosis. Sphingosine kinase is a lipid kinase that catalyzes the phosphorylation of sphingosine into sphingosine-1-phosphate. Sphingosine kinase has two isoenzymes, sphingosine kinase 1 and 2. Sphingosine kinase 1 is ubiquitously expressed in most cancer cells where it has been linked to cell proliferation, migration, and survival. Based on this information, sphingosine kinase 1 has become a novel target for anticancer therapy. We analyzed the molecular properties of several zone 2 inhibitors of sphingosine kinase inhibitor 1 using an online molecular property analysis site called “molinspiration”. The inhibitors were then modeled using the Marvin’s Sketch computer software. The inhibitors were then uploaded into USCF Chimera with sphingosine kinase 1 and the docking analysis was conducted using Autodock Vina. The binding energies of each inhibitor were recorded from the docking analysis. The docking energies recorded tell us how well each inhibitor was able to bind to the docking site. This information will be useful when determining the optimized inhibitors for Zone 2 of sphingosine kinase inhibitor 1.



Winthrop McNair Scholar: **Gabrielle McGee**

Major: Psychology

Mentor: Dr. Donna Nelson

Title: Student Perceptions of Significant Learning Experiences Before and After COVID-19

Abstract: Institutions of higher education are charged with providing quality learning opportunities for all students. Systemic biases that negatively impact the educational experiences of minority students, as well as the recent reliance on remote instruction, present two challenges to meeting this goal. Previous research has assessed the quality of student learning with an emphasis on academic knowledge, thereby overlooking other important learning outcomes. Fink (2013) proposes a taxonomy of significant learning that includes six learning types: Foundational Knowledge, Integration, Application, Changes in Caring, Human Dimension, and Learning How to Learn. The present study examined college students’ reports of these types of significant learning experiences and analyzed whether these reports varied by gender and race. Additionally, researchers examined the impact of the COVID-19 remote learning period on the various types of significant learning and analyzed whether effects varied by race and gender. Results revealed that White students reported experiencing higher levels of significant learning in college than Black and Hispanic/Latinx students. The COVID-19 remote learning period impacted each of the significant learning types in various ways for students overall. Black and Hispanic/Latinx students, however, experienced a higher increase in the Human Dimension category (i.e., learning about themselves and others) than their White counterparts.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Iyegbekosa (Egbe) Omoigui**

Major: Psychology

Mentor: Dr. Tara Collins

Title: Predictors of Criminal Behavior: Discrimination, Parenting Styles, and Socioeconomic Status

Abstract: This project examines the predictors of criminal behavior, with a focus on experiences in childhood. Previous research found that childhood aggression, living in a single parent household, low income, inattentive parental behavior, and family conflict are related to increased criminal behavior. The current study examines experiences during childhood as predictors of willingness to engage in criminal behavior in adulthood. Specifically, we examine caregivers' parenting styles during childhood, lifetime experiences of discrimination, and childhood socioeconomic status using a sample of college students from a southern university. A correlational research design was used to examine whether these variables predict participants' willingness to commit various crimes. We found that both racial and socioeconomic discrimination were significant positive predictors of willingness to commit crimes. We also found that the parenting style subscale "care" was a marginally significant negative predictor of willingness; the subscale overprotection was not a significant predictor. We also found no significant differences related to SES, type of caregivers (e.g., biological parents), or gender. Our findings suggest that experiences of discrimination, not demographic variables, are stronger predictors of willingness to commit crime. We discuss how this enhances our understanding of the systematic oppression of Black, Indigenous, and other people of color that undermines their access to opportunity.



Winthrop McNair Scholar: **McCayla Partain**

Major: Social Work

Mentor: Dr. Wendy Sellers

Title: Campus Mental Health Services and Students Needs in COVID-19

Abstract: There has been an increased rate of utilization of campus-based mental health services among college students. While this overall trend is noteworthy, disparities exist in terms of quality and quantity of campus-based services. Some of these differences are linked to the overall socioeconomic status of student populations. The outbreak of COVID-19 has compounded these issues. Recent research surrounding the Coronavirus pandemic suggests that the stressors involved, particularly for college students, may elevate and alter their need for mental health services. Additionally, there are disparities in terms of who is most affected by the pandemic, with populations based on race, class, and gender being most at risk. Through random cluster sampling of institutions within the six regional accreditation bodies of the United States, this study explores the ways in which colleges and universities are meeting the mental health needs of students during COVID-19. This paper discusses this secondary data analysis, based on information obtained from institutional websites, kinds of mental health services, access to these services, and provisions and availability during COVID-19. The results highlight the disparities of mental health services, based on sociodemographics of student populations, and how these disparities have worsened during the pandemic. This information will help to inform further development and expansion of mental health services in response to the pandemic, in preparation for future crises in public health, and in attention to diverse and vulnerable students.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Ana Lydia Rodriguez**

Major: Psychology

Mentor: Dr. Merry Sleigh

Title: The Role of Youth Race, Stereotype Acceptance, and Aggression on Perceptions of School Altercations

Abstract: Two decades of research have shown that African American students experience more severe punishment during their K-12 school years (Gopalan & Nelson, 2019; Raffaele et al, 2002). We examined adult perceptions of an altercation between two male children and between two male adolescents. We asked participants to read the altercations and imagine being a teacher who needed to handle the situation. Participants (n = 114) were randomly assigned to one of three conditions in which the accused student was African American, Caucasian or Hispanic. Participants provided their perceptions of the situation and the students involved. Participants then responded to scales to measure aggression (Buss & Perry, 1992) and impulsivity (Coutlee et al., 2014), as well as statements to assess stereotyped thinking. Contrary to our hypothesis, our participants viewed the accused Caucasian child and adolescent more negatively than their counterparts and felt the accused African American child was provoked. This change from previous research may be the result of the hypothetical nature of the scenario or a reflection of a recent societal focus on racial inequality. In fact, adults in our study, across race and gender, showed very low levels of stereotypical thinking. We also found that adults who reported more anger, hostility, and impulsivity were more frustrated by and less confident about how to interpret the altercation. School staff members with these characteristics may be more vulnerable to making emotional decisions rather than those in the best interest of the students.



Winthrop McNair Scholar: **Taylor Sandifer**

Majors: Sociology & Spanish

Mentor: Dr. Maria Aysa-Lastra

Title: Resilience of Student Organizations During the Global COVID-19 Pandemic

Abstract: Student organizations are significant to the college student experience, and have been credited with increasing college satisfaction, cognitive development, and personal growth. This study focuses on patterns of communication to analyze how student organizations and their leaders are adapting to rising levels of fear and uncertainty due to the effects of the COVID-19 global pandemic on campus closures and required physical distancing. Through examination of frequency and quality of communication reports by students, it identifies the characteristics of organizations with high levels of resilience. Two sources of data were used—a survey administered to undergraduate students that assesses frequency, quality, and type of communication between their members during COVID-19, and in-depth interviews conducted with student leaders about how activities and communications were maintained. Results show that student organizations that did not have challenges with communication prior to the pandemic have more frequent and better quality interactions in comparison to those who did. In addition, students involved in organizations who are female or used a webinar or video calling platform during the pandemic for their organization have more frequent and quality communications, and therefore are more resilient.

Winthrop McNair Summer Research Symposium - June 29, 2020

Scholars and Abstracts



Winthrop McNair Scholar: **Savannah Stinson**

Major: Sociology

Mentor: Dr. Michael Sickels

Title: Media Influence on Black Men's Constructions of Gender and Masculinity

Abstract: In March 2020, basketball icon Dwyane Wade made yet another statement to top his 2019 retirement; this time he announced that his daughter Zaya was transgender. Though discussions surrounding Dwyane Wade as a parent erupted on social media, no one has explored the impact of celebrity influence on masculinity. The purpose of this study seeks to analyze this. I conducted six semi-structured interviews with black men in college, ages 18-25. Five of sex identified as Baptist Christian, and five of six identified as heterosexual. I found that (1) black men in college embraced traditional ideas of masculinity despite the opposite, negative portrayal of black masculinity in the media (2) black men view masculinity as unfinished, something they can continue to strive to be. While this can be beneficial in opening black men in particular to be more accepting of ideals outside of the traditional masculine construction, it can also be a result of the strive to achieve hegemonic masculinity- an unattainable status built only for white men and (3) the conversations surrounding Dwyane Wade and Zaya have served to open up the discussions on how celebrity influence is contributing to the shaping of ideas about gender.



Winthrop McNair Scholar: **Victoria Sulak**

Major: Psychology

Mentor: Dr. Brandon Ranallo-Benavidez

Title: Sexual Education and Sexual Risk in Sexual Minority Youth

Abstract: Compared to their heterosexual peers, sexual minority youth experience higher rates of sexual risk behaviors (Saewyc et al., 2008; Everett et al., 2014). Access to comprehensive sexual education is often linked to reduced rates of risky behaviors (Petrova & Garcia-Retamero, 2015), however sexual minority students often feel underrepresented in sexual education (Estes, 2017). Conducting a content analysis of sexual education policies of all fifty states and the District of Columbia, researchers coded policies as neutral, inclusive, or exclusive of sexual minorities. Additionally, policies were analyzed for heteronormativity and heterosexism. Among policies found, most were neutral. There were more exclusive policies than inclusive policies. Among exclusive policies, all were either heteronormative or heterosexist. No neutral or inclusive policies were heteronormative or heterosexist. Using this data and data from sexual behavior subsection of the Youth Risk Behavior Surveillance Survey, I will begin to examine the relationship between policies and sexual behavior in sexual minority youth with an emphasis on condom use, birth control use, and sexual initiation.

Winthrop McNair Summer Research Symposium - June 29, 2020
Scholars and Abstracts



Winthrop McNair Scholar: **Aimée Sykes**

Major: Social Work

Mentor: Dr. Kori Bloomquist

Title: Knowledge, Practices, and Perceptions of Screening Adults for Childhood Trauma in Primary Care Settings

Abstract: Childhood trauma is related to many poor health outcomes and early mortality in adult survivors. Adult patients who visit primary care agencies are asked to disclose full medical histories, but they are rarely asked about childhood trauma. Not asking about childhood trauma is a missed opportunity to understand the overall well-being of a patient. Despite the potential of primary care facilities to implement trauma screening into patient visits, routine trauma screening of adult patients remains underutilized in practice. Integrating screening of adult patients in primary care settings is feasible, but there are significant gaps between trauma screening research and practice. This study uses modified, existing quantitative scales to sample professionals in multidisciplinary roles within healthcare settings to identify the knowledge, practices, and perceptions of screening adult patients for childhood trauma. Results gleaned from this study have the potential to further research and practice related to screening for childhood trauma in primary care settings.



Winthrop McNair Scholar: **Eric Walters**

Major: Chemistry

Mentor: Dr. James Jr. Hanna

Title: Visible-Light promoted Alkylation of Aldehydes with Organotrifluoroborate

Abstract: This proposal seeks funding to conduct research on visible light promoted radical additions to aldehydes with potassium organotrifluoroborate compounds. If our approach is successful, it will serve as an effective method to capturing the reversibility of alkoxy radicals while also expanding the utility of visible light photoredox catalysis for aldehyde reactions. Additionally, it will be a stride towards more sustainable, “green” chemistry since we have placed an emphasis on the use of an organic catalyst and potassium organotrifluoroborate compounds. Both are relatively non-toxic and we believe organic catalysts will prove to be an effective, yet inexpensive tool in this area of research. We will look to conduct a series of optimization studies that will uncover how conditional factors effect yield of the reaction. Then once a standard (the optimal conditions) has been found, a series of reactions will be run. This will consist of aldehydes with different aryl, alkyl, and allyl substitutions and the effect on yield. In addition, we will uncover if the addition of a Lewis acid will aid or hinder reaction yield. Then, we will investigate various substituted potassium organotrifluoroborate compounds and their effect on yield. Overall, in each case, we would like to know the effect sterics and electronics have on reaction yield.