



EMU McNair Challenger

January 2018 Edition: Eastern Michigan University McNair Scholars Program

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THE RESEARCH ISSUE, 2018

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McNair Program

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The Future is McNair!!

Upcoming Events:

32nd Annual Martin Luther King Jr.

Celebration: Live the Legacy: Look Back, Be Present, Move Forward
www.emich.edu/mlk
January 11 - 16

Our Voices Workshops

January 10, 18, 22, and 24,
6-8:00 p.m., Student Center

Our Voices: A collection of original creative works, poems, monologues, music, and dance about women's identities and experiences
February 1, 7-9:00 p.m.,
Student Center Auditorium

The Black Panther

In Theaters February 16

19th Annual National McNair Scholars Research Conference at the University of Maryland

March 15-18, College Park, MD

Happy New Year! Welcome to 2018! EMU's McNair Scholars have accomplished so much in the past year! Our scholars are hard at work on their faculty-mentored research, and some have recently presented at EMU'S Martin Luther King Jr. Celebration (see page 2). In this month's *Challenger*, our newest Graduate Assistant, **Chris Phanord, B.A.**, is interviewed by **Dr. Heather Neff**.

A Seat at the Table: Introducing Our New Graduate Assistant, Chris Phanord!



Congratulations on your new position here at the McNair Scholars! Tell us a little bit about yourself.

Thank you! I'm glad to be a part of the McNair Scholars Program! My name is Chris Phanord and I am currently a graduate student in the General Clinical Psychology Master's program here at Eastern Michigan University. I am excited about having the opportunity to help the students in the McNair program as the new grad assistant!

I myself am a first-generation student. My parents are both immigrants, my mother from Jamaica and my father from Haiti. They came to Detroit in hopes of a better life and pursuing the American dream. Both of my parents have remarkably overcome numerous obstacles within their lifetimes, and continue to inspire and motivate me every day. They stressed the importance of my education from a very young age. I feel I am a continuation of my parents' American dream, and by finishing graduate school I will not only advance my long-term career goals, but make the aspirations of success my parents had for me a reality. In December of 2015 I graduated early from the University of Michigan-Dearborn, where I double majored in Psychology and Criminal Justice Studies with a minor in Sociology.

What are some of your greatest accomplishments, and what are your eventual educational and professional goals?

Graduating from college was a huge accomplishment for me. I was so excited to gain admission into EMU's program especially considering how competitive graduate programs in Clinical Psychology can be. After completing my Master's degree, I will apply to Ph.D. programs. I hope to become a multicultural psychologist, and primarily wish to work with college students.

Tell me more about your past research and future research interests?

The research I did during my senior year of college examined associations between attachment status, and beliefs regarding college students' ability to alter their anxiety, emotion, and personality. After completing my research, I did two poster presentations, at an undergraduate research showcase, and at the Association for Psychological Science. In terms of future areas of interest, I would like to research stress, primarily in emerging adulthood, different coping strategies, and their effectiveness. At the moment, I am considering examining mindsets, resilience, and their effects on academic success. I feel the McNair Program would also be a great topic for additional research related to my interests.

DeMarco Johnson, Victoria Fields, and Anthony Terry present at the Martin Luther King Jr. Celebration!



Anthony Terry, Victoria Fields, and DeMarco Johnson (pictured left) presented their faculty-mentored research projects at the 32nd Annual Martin Luther King Jr. Celebration at Eastern Michigan University on January 15th, 2018.

These three McNair Scholars' presentations had a common theme that addressed various problems that have a severe impact on minority and low-income communities. Unfortunately, all of these issues have been largely ignored both by our government and by general society in the past, and their research aims to bring attention to these concerns that are often overlooked. All three presenters concluded their thought-provoking discussions with future recommendations for ameliorating these complex problems, and an insightful Q&A session.

DeMarco Johnson presented on the exclusion of data on low-income victims of environmental crime, and the effects pollution on communities in Detroit's River Rouge area.

Victoria Fields discussed the many challenges faced by trans and intersexual athletes in professional competitions, such as the Olympics.

Anthony Terry's presentation addressed the numerous academic, financial, and emotional problems experienced by veterans seeking university education.



EMU McNair Scholars attend the 32nd Annual Martin Luther King Jr. Celebration: Live the Legacy: Look Back, Be Present, Move Forward

Pictured (left to right): Dr. Heather Neff, Victoria Fields, Desiree Drake, DeMarco Johnson, Deziray Taylor, Jady Guess, Alyssia Hence, Anthony Terry, and Kimberly Brown, M.A.

Current McNair Scholars' Research-in-Progress

“The Underutilization of Mental Health Services on College Campuses by African-Americans”

Mahogany Anderson & Dr. Charles Graham, Ph.D.

Abstract: Several studies show that Black American college students' underutilization of mental health services is in part related to stigma (Masuda, Anderson & Edmonds, 2012). This study will examine the many reasons why black college students are not willing to seek help from mental health services provided on campus. Through the use of qualitative and quantitative measures, this study will focus on how comfortable black students are with using the mental health services provided, and the stigma around receiving help, and how their gender identification. This study will determine who will be more comfortable discussing their mental health between both men and women. The study hypothesizes that both gender and other identity markers will predict comfortability and willingness to utilize the mental health services that are offered to them.

“The Rhetorical Discourse Surrounding Intersex Athletes”

Victoria Fields & Dr. Dennis O'Grady, Ph.D.

Abstract: For decades, female intersex athletes have been ostracized by professional sport organizations, including the Olympics, due to their androgynous or masculine physique. These athletes have experienced backlash from sports fans and competitors, due to the assumptions that they are men masquerading as women, or that they have gained unfair advantages in competition through the use of testosterone (Schweinbenz, 2010). Media coverage of these athletes is often highly negative, which has led to these athletes undergoing sex verification tests and/or suspension by the International Olympic Committee (IOC) (Elsas and colleagues, 2000). This study explores the rhetorical discourse surrounding female intersex athletes in professional athletic settings, using a case study analysis of five professional athletes. The study will examine the derogatory and harmful rhetoric used against female intersex athletes, and discuss how these messages have affected their professional image and impact the public's perception of intersex athletes.

“Die Cast Aluminum Fastener Joint Torque Loss”

Robert Green-Warren & Dr. Lamar Stewart, Ph.D.

Abstract: The purpose of this analysis is to investigate the root cause of torque loss in a die cast aluminum fastener joint with a property class 10 stud and nut assembly. The primary goal of this investigation is to develop the ability to predict the fastening performance of die cast aluminum fastened joint in an Automotive Powertrain application. In this work, a Taguchi orthogonal array will be used to investigate the relative contribution of the factors that impact fastener torque loss. These factors include, but not limited to: thread engagement, fastener stretch, grip length, fastener twist, and surface contact pressure. From the Taguchi orthogonal array, the ANOVA statistical model will be used to compute the relative weighting of each factor. From these statistical results, an optimum set of factor settings will be established. The results from this investigation will be considered for publication in the Journal of Forensics Engineering.

“Cognitive Functioning Outcomes After Lifetime Use of Alcohol and Tobacco Among a National Sample of U.S. Older Adults”

Courtnei Montgomery & Dr. Karen Saules, Ph.D.

Abstract: Although the effects of chronic substance use on both improvements and impairments in cognitive functioning have been greatly studied, less is known about the interactive effects of substances in combination on different domains of cognitive functioning in aging adults (65+ years of age). Processing speed, a major component of cognitive functioning, is an important factor to consider when studying substance use in older adults due to the role it plays in reasoning, working memory and cognitive aging.

Current McNair Scholars' Research-in-Progress, continued

“The Efficiency of the Hyaluronidase Binding Sequence Analogs within Cysteine Deleted Tachyplesin Antimicrobial Peptides to Cause Cell Death in Lung Cancer Cells”

Jaylen Taylor & Dr. Deborah Heyl-Clegg, Ph.D.

Abstract: Antimicrobial peptides (AMPs) demonstrate activity against bacteria, and have been used as effective antibiotics. These antibacterial properties are due to their ability to disrupt the cell membranes of a prokaryotic bacteria cell causing lysis- cell death. The AMP, cysteine deleted tachyplesin (CDT) exhibits anticancer properties that also cause cell death in cancer cells. Attraction between the positive arginine rich peptide and negatively charged eukaryotic cancer cell membrane allows for contact between the peptide and membrane to be made. The attraction also allows the peptide to have selectivity in targeting cancer cells over healthy eukaryotic cells, as the healthy cells lack a negatively charged membrane. To understand the mechanism by which the cell death occurs, truncated analogs of the CDT peptide hyaluronidase binding sequence can be synthesized and tested against cancer cells.

“Stress and Emotional Eating in Adolescent Girls: Attachment Security as Moderator ”

Karess Taylor & Dr. Chong Man Chow, Ph.D.

Abstract: Emotional eating among adolescent girls is an important precursor of weight gain and obesity (Braet et al., 2016). Researchers have defined emotional eating as individual's eating behaviors in response to emotions they endure, and more specifically, to increase food intake due to positive or negative emotions (Bongers & Jansen, 2016). Finding the etiology of emotional eating is important for clinicians hoping to prevent obesity. In past studies, stress has been found to be an important indicator of emotional eating in adolescent girls (e.g. Corsica et al., 2014). However, not all people who experience stress will engage in emotional eating. The stress- diathesis model suggests that certain traits of vulnerability may predispose some individuals towards mental health problems in response to stress, including eating disorders (Esposito-Smythers 2012). One of the important traits that moderate the effects of stress on mental health problems is attachment security (Chow & Ruth 2014), which is determined by the sensitivity and responsiveness of the attachment figures (Cooper & Shaver 1988). Combining the stress- diathesis model and attachment theory, the current study aims to investigate whether adolescent girls' attachment security within close relationships may moderate the association between experiences of stress and emotional eating.

“Barriers Experienced by Student Veterans”

Anthony Terry & Dr. Ellen Koch, Ph.D.

Abstract: Thirty to forty percent of student veterans do not complete their postsecondary programs (Cate, 2013). Many student veterans do not have the proper assistance when battling stressors that directly affect their experiences during college. “Twenty percent of recent veterans have struggled with post-traumatic stress disorder (PTSD) or depression, and 19% have experienced some form of traumatic brain injury (TBI)” (Hoge, Auchterlonie, & Milliken, 2006, p. 1025). Many veterans do not persist in higher education fully complete school because of the stress and depression when dealing with the symptoms of PTSD. Veterans also struggle with the shock of transitioning into post-military; some feel that they have lost a part of their identity when transitioning from serving their country to becoming a typical college student. This study addresses these challenges and highlights some of the issues returning veterans experience when trying to pursue higher education. Furthermore, the study examines the way in which veteran's experiences could help them succeed in college life. The study will use a mixed methods approach, employing a survey and individual interviews.

Congratulations to Jesse Smith! Our First Graduate Admission of 2018!



We are excited to announce that **Jesse Smith** has been accepted into the Biochemistry Ph.D. program in the Department of Chemistry and Biochemistry at The Ohio State University! We wish him the best of luck in his studies!



EMBRACE HIS LEGACY:
CREATE YOUR OWN



“Whether or not you reach your goals in life depends entirely on how well you prepare for them and how badly you want them. You're eagles! Stretch your wings and fly to the sky!”

– *Ronald E. McNair*

(October 21, 1950 - January 28, 1986)

