Hello, 2015! And hello to another year of research, new scholars, and fantastic moments and memories. This starts off with a bang, as EMU McNair scholars all buckle down for the second semester of this academic year. Research is at the forefront of everyone’s mind as our Cadets prepare their individual research proposals, our Interns work on their McNair Projects, and we all get ready for the 2015 Undergraduate Symposium! In this month’s Challenger, EMU Research Compliance Officer, Dr. Sonia Chawla Wright, sheds light on the difficulties students face when conducting research, and four current Interns offer us a preview of their own faculty-mentored studies. Enjoy!

— February Guest Editor, Shahana Ahmed

Research Rules: Meet Dr. Sonia Chawla Wright
by Shahana Ahmed

Research, across all disciplines, has led to a greater comprehension of the unknown, and allowed for the discovery of spiritual, philosophical, educational, and scientific knowledge as it pertains to humanity and the world around us. Yet to conduct research, basic values of ethics, respect, and compliance must be followed in order to ensure that the data gained are not misleading. That’s the goal of EMU Research Compliance Officer, Dr. Sonia Chawla Wright. Dr. Chawla, a native Michigander, holds an M.A. and Ph.D. in Psychology, and a B.S. in Brain and Cognitive Sciences. While working on her dissertation, Dr. Chawla accepted a position working for the Boston University Institutional Review Board (IRB), the committee responsible for human subject protections in research. After completing her Ph.D., Dr. Chawla eventually returned to Michigan and joined EMU’s Office of Research Development and Administration.

When asked what “compliance” actually means, Dr. Chawla explains that, “Compliance, in my job, refers specifically to meeting the regulatory requirements for conducting research. The federal government has extensive regulations and laws concerning how research should be conducted. It's my job to understand and apply these laws to the research at EMU.”

Dr. Chawla emphasizes that compliance is critical in all types of research. “But students,” she says, “are a great population to work with in compliance and ethics, because it's their first time really doing research. In teaching students how to do research, it's important to teach good research practices, and ethics and compliance are large part of good research practice.” Finally, when asked what difficulties most students face when beginning faculty-led research, she says that students “do not really know how to speak the language of research. Doing research is like going to a foreign country, and it takes a while to understand the culture. Independent researchers train for years, sometimes over a decade, so students who are at the beginning of this process can get a little lost. Part of my job is to help guide students (and faculty) through the regulatory requirements for research.”

Dr. Chawla will be the guest speaker at the February 6th McNair Research Seminars.
Breaking Biracial Barriers
by Tiffany Browne, McNair Intern

My individual research project is titled, "You Can't Pick One and You Shouldn’t Have To: Analyzing Biracial Female Protagonists in Children's Literature." My purpose is to examine children's literary texts in which the main character is dealing with issues of biracialism. I’m interested in whether authors construct characters who must embrace one half of their racial demographic over another, and what techniques are used to bring this about. As a biracial woman in an increasingly multicultural society, I believe it’s important to analyze the content of the literature we’re giving to our children to read. Because biraciality is an issue seldom studied, there are many readers, and biracial children, who deal their identity struggles alone. With the help of my mentor, Dr. Ramona Caponegro of the Children's Literature program, we hope to explore the social and political nuances of biraciality, and to prove that it’s impossible — and unnecessary — for people to choose between their two identities!

Asexual Umbrella
by Dominique Canning, McNair Cadet

I am currently working with Dr. Eric Acton, a professor of Linguistics in the English Department, on a project based in sociolinguistics. In my research, I’ll be exploring how labels are used in online conversations about the possible boundaries surrounding asexuality, and how those conversations may differ from website to website. As a major in Linguistics with a minor in Queer Studies, I’ve always been interested in the way language is used in relation to sexual-orientation/gender identity. Last semester in Dr. Acton's socio-linguistics class, I did a project on the development of asexual vocabulary online. It finally made sense to ask my sociolinguistics professor to be my McNair mentor. With the increase in conversation surrounding sexual orientation, it is important to know what different people are saying. The way language is used can give us insight into a community that may not be possible otherwise. Using this research, I hope to be able to better explain the relationships between the different identities that may — or may not — fall under the "asexual umbrella."

Environmental Crimes
by Simone Tisder, McNair Intern

My individual research topic is focused on the media coverage of environmental crime in Cleveland, OH. With my mentor, Dr. Kimberly Barrett, from the Sociology Department, I’ll be investigating the relationship between the environment, and criminology and society. This research is important because environmental issues affect the world around us, as well as our daily lives. Environmental damage affects our society's public health, safety, general behavior, education, economy, and much more. Environmental Racism directly and indirectly affects minority groups, including communities that are usually of low socioeconomic status. These communities don't have a lot of power to fight big corporations, nor the resources to help themselves. Major industrialized cities like Cleveland, OH, and Detroit have a history of environmental damage and it’s important make communities aware that crime isn’t just an act perpetrated on humans, but also done on the very land that sustains us.

Water is Life
by Mariah Brito, McNair Cadet

I am working with Dr. Jeffrey Guthrie, of the Chemistry Department, in his Aptamers as Biosensors lab. I incubate single stranded synthetic DNA (ssDNA) with a target molecule, and run it through a capillary electrode to separate and distinguish the DNA that stuck to our target molecule, from the DNA that didn't stick. Hopefully, we will be able to use the DNA that sticks to our target molecule as an indicator for water quality treatment. This project is really interesting and important because I’d like to work with water quality and treatment for watersheds, advancing the technology available for that field. Not only are we trying to isolate biosensors for bettering the cost and speed of water quality testing, but we’re also trying to advance the technique we’re using to find the biosensor, so that other people can find more biosensors efficiently. Also, the machines I get to work with are also pretty cool, and I’m excited to get experience with them!
The McNair 2014 Team Challenge

During the Fall semester 2014, the McNair Cadet and Intern classes formed research-related groups of 4-5 students to work as teams on the production of a short research proposal. The focus of the McNair Team Challenge was to create an interesting and informative research proposal on a topic current culture. Teams had dedicated time during the weekly Research Seminars to meet and work on their proposals. They could use McNair computers and printers to conduct research and print results. Some teams also used Google.docs, Skype and phone conferencing to discuss their proposals outside of class. An Intern served as the leader of each team.

Each team proposal included:
- A creative, interesting title that captured the essential focus of their work, but made the reader/listener want to learn more;
- Data drawn from legitimate academic websites and research articles, and a Works Cited page with a minimum of five sources;
- A Literature Review that presented the group’s perspective on the issue, but also incorporated published academic research from websites and refereed journal articles;
- A Powerpoint, which was presented during our final Fall seminar, on December 5th.

The proposals and Powerpoints were read and judged by an independent jury — our thanks to Dr. Claudia Petrescu, Gradute School Faculty Associate, Ms. Jennifer Fong, Director of EMU Upward Bound, and Dr. Mary Zdrojkowski, Holman Success Center.

The winners, Team 5 (“The Mad Scientists”), were treated to an all-you-can-eat luncheon at Asia City restaurant, and $25 Amazon gift cards. Well done, Scholars!

Please enjoy the 2014 Team Challenge abstracts, below.

__Team #1: “The Michelle Obamas:” Brialle Ringer, Gloria Tonks, Nyambura Njee, Gwendolyn Dean, Simone Tisder
I Got 99 Problems and Nutrition is One: A Closer Look at Food Deserts in Ypsilanti, MI

The purpose of this quantitative study is to explore the impact food deserts have in low socioeconomic status (SES) communities in Ypsilanti and beyond. Food deserts lack access to nutritious and quality foods and are often found in areas characterized as lower SES (Walker, Keane, Burke, 2010). Low SES are income populations that tend to be ethnic minority groups affected by inadequate and unjust disbursement, access to resources, and quality of life (American Psychological Association, 2014). The lack of access to a supermarket often leads people to purchase necessities at liquor and convenience stores, or meals at fast food restaurants. The food purchased at these locations typically lack nutrition (Food Research and Access Center, 2014). We seek to understand how food deserts impact the health of people living in these areas and consider the potential solutions. The method we will use to obtain data is through a survey study of 100 families in low SES households living in food deserts within Ypsilanti. We expect to find disparities in health related social problems regarding residents of low SES areas that lack access to healthy foods.

__Team #2: “Phoenix:” Brandie Bentley, Rosaly Maldonado, Allante Moon, Mikki Smith
“Shake your Moneymaker”: An Analysis of Hip Hop Music’s Effects on the Identity of Black Women

Hazzard- Donald (1996) defines “Hip-Hop” as a genre originating among marginalized African American youth. The art of Hip Hop began in the late 1970’s and has continued to grow as a phenomenon (Traber 2012). Today, Hip Hop is identified not only as a music genre, but as an urban lifestyle many people have adopted as their own. Incorporating hip hop culture into the rituals of everyday life has made it a marker of the Black Youth subculture (Clay, 2003). According to Stephanie Shonekan (2010), through listening to Hip Hop, similar ideas can be exchanged between the musicians and the listener. As a result, powerful messages can easily be transmitted through hip hop and used to either empower or discourage African American youth (Shonekan 2010). In many music videos, the physical aspects of Black women are amplified and sex is used as a way to sell the music, regardless of the artist’s gender, as well as the brand they are promoting (Balaji 2010). Although many mainstream artists embrace the sexualized culture, there are others who seek to empower and uplift women through Hip Hop. Performers such as Queen Latifah and Erykah Badu have used varying degrees of feminism in their careers as a weapon of empowerment (Emerson 2002).

Many messages are conveyed in Hip-Hop, but the question remains: which messages have an impact on the young Black women who listen to Hip-Hop, and which do not? This research will examine the effects of listening to Hip-Hop music may have on the identity of young Black women. For this study, ages 18-25 will serve as our sample age range for the focus groups conducted. Each group will listen to 2 Hip- Hop songs and discuss them with a facilitator.
McNair Scholars Team Abstracts Continued

Team #3: The Lingo Ladies: Dominique Canning, Bethany Preston, Yolanda Trentadue
Secrets to Success: The Benefits of a Second Language Requirement in K-12 Education

America’s K-12 academic obligatory curriculum should include second language instruction to prepare our children for the world’s increasing demands. In comparison to other nations around the world, Americans are behind in foreign language skills, placing us at a disadvantage. This was demonstrated by Dr. Kathleen Stein-Smith, PhD, an Adjunct Faculty member at Fairleigh Dickinson University, in her study “U.S. Foreign Language Deficit and Our National Security” (Stein-Smith, 2013). The interviews with K-12 educators will: (a) assess the benefits and the detriments of second language instruction, and (b) demonstrate the importance of second language instruction by comparing the GPAs of K-12 students who have received second language instruction to those who have not. America must begin preparing future multilingual leaders from the beginning of their education. As Cornell President David Skorton explained in a Forbes Magazine Article, “We need them to read and speak languages that are essential to our strategic and economic interests” (Skorton & Altschuler, 2012).

Team #4: “Tim and the Researchettes:” Tiffany Browne, Kayla Boyd, Kyana Dixie, Victoria Fisher, Timothy Harrison
The Tyra Banks Project: Analyzing Supermodel Perception and Development of Eating Disorders in Women

For years, women have set impossible standards for their appearance based on their perceptions of supermodel portrayals in the media. According to Grabe, Ward, and Shibley Hyde (2008) nearly fifty percent of girls and undergraduate women are dissatisfied with their body. This research will serve to educate women on the dangers of striving for supermodel standards through a literature review and analysis of an existing quantitative study conducted by Stice et al. (1994) on the prevalence of women’s eating disorder symptomatology. We will strive to replicate Stice’s results to show a positive correlation between supermodel perceptions and the development of eating disorders in young women.

Genetically Modified Crops and Use of Agricultural Pesticides May Determine Adverse Health Effects in Humans.

Genetically modified organisms (GMO) are artificially selected plants with favorable traits that are molecularly changed in their biological processes (Bakshi, 2003). In recent years, GMO’s have become a replacement for organically grown plants due to abundance in quantity, economic profit, and the ability to isolate favorable nutritional qualities. The process of genetic splicing involves activating and deactivating the genetic material of the organism in a laboratory. Alterations in formation and structure of different proteins in the plants thus allow for pesticide resistance (Benbrook, 2004). This experiment will specifically analyze certain GMO’s to determine the health liability for human consumption. The goal is to discover whether the orientation of the GMO’s or their pesticide resistance is the possible factor for adverse health effects. We propose that through the study of the formation and structure of proteins by a protein assay and a consumption analysis done with mice, we may be able to determine whether the GMO’s themselves are a source of health effects or the residual pesticide resistance.

Great News!!

- **Tiffany Browne** – Honors Research Fellowship
- **Mariah Brito** – Undergraduate Research Stimulus Award
- **Shahana Ahmed** – Honors Study Abroad Award
- **Mayra Rivas** (Graduate 2014) – Currently at Univ. of Michigan’s Masters in Public Health Program

CONGRATULATIONS!

McNair GPA Excellence

Let’s celebrate another semester of hard work and excellent GPA’s!!

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GREAT JOB, SCHOLARS!