



# Undergraduate Research Symposium May 17, 2019 Mary Gates Hall

## Online Proceedings

### POSTER SESSION 1

MGH 241, Easel 128

11:00 AM to 1:00 PM

#### **Tools for Economic Empowerment: Lessons from the Hope Foundation for African Women**

*Khatsini Simani, Senior, Accounting*

*McNair Scholar*

*Mentor: Michelle Martin*

In countries with developing economies, economic activity and progress are often considered only in numeric terms such as wages, Gross Domestic Product (GDP) or utilization of credit. Proponents of economic empowerment as a vehicle for economic development emphasize the social and educational aspects of development such as financial education, gender equality and agency. I investigate how existing research defines “economic empowerment,” in the context of economic development, and observe various programmatic approaches to economic empowerment in Kenya. For this project specifically, I focus on how one organization, The Hope Foundation for African Women (HFAW), fosters economic empowerment through financial education and financial services. In addition to advocating for gender equality, HFAW provides finance and literacy trainings primarily for women using the “Popular Education” model and “Social Change Communication.” The organization provides programming in five counties located in Southwestern Kenya. The goal of this project is to highlight existing financial education methods used by HFAW to empower communities and individuals, and to prompt discussion regarding vehicles of economic empowerment. This paper highlights effective teaching methods within the organization and illuminates areas where further research might help improve outcomes for HFAW participants. Based on areas of need identified by HFAW staff in interviews, and informed by my background research, materials will be provided to support the organization’s financial education programming. Funding is made possible by the Ottenberg-Winans Fellowship. This project will foreground further research that can identify and improve upon effective future economic empowerment programming.

### SESSION 1P

#### **McNAIR SESSION - BIOLOGICAL MANIPULATIONS TO DEVELOP MEDICAL AND ENVIRONMENTAL INTERVENTIONS**

*Session Moderator: Barbara Juarez, Psychiatry*

**MGH 295**

12:30 PM to 2:15 PM

\* Note: Titles in order of presentation.

#### **Role of the Endocannabinoid System in the Lateral Habenula on Cognitive Flexibility**

*Grace Lim, Junior, Accounting, Psychology, Washington State University*

*McNair Scholar*

*Mentor: Ryan McLaughlin, Psychology, Washington State University*

Over 350 million people are affected by major depression on a global scale according to the World Health Organization with an increasing economic impact of over \$210 billion annually with a growth of 21.5% since 2005. The ability to switch behaviors or strategies when faced with chronic stress is an important determinant to the susceptibility and longevity of depression within people, also referred to as cognitive flexibility. The objective of this proposed study is to analyze the effects of the endogenous cannabinoid (ECB) system on cognitive flexibility through the lateral habenula. Cannula implant surgeries will be conducted on rats to input antagonist or agonist drugs into the brain. Behavioral tests will be conducted on rats to examine whether these manipulations will promote or deter cognitive flexibility.

### POSTER SESSION 3

Commons West, Easel 26

2:30 PM to 4:00 PM

## **The Need for Social Supports in Caregivers with Cancer Histories**

*Yi Le (Ino) Zhang, Senior, Psychology*

*Echo (Qianying) Peng, Senior, Psychology*

*Ruitao Zhang, Senior, Psychology, English (Creative Writing)*

*Nuan Crystal (wen) Wen, Senior, Accounting, Psychology*

*Mentor: Peter Vitaliano, Department of Psychiatry and Behavioral Sciences*

*Mentor: Jin You, Department of psychiatry and behavioral science, Washington University*

Many of the world's most important countries are experiencing large increases in their populations of older adults (e.g. Japan, China, Italy, Germany). Such longevity is requiring a greater need for long term care. However, societies can not afford to pay for formal care, so informal (unpaid family) caregivers (CGs) are becoming increasingly important. Unfortunately, many CGs are at high-risk for psychosocial/health problems. Moreover, caregivers with pre-existing health problems are particular risk. Our goal is to examine factors that may make cancer caregivers vulnerable. We used a vulnerability (have a cancer history or not) by exposure (being a caregiver or not) model, and stratified our participants into four groups: Cancer Caregivers, Non-Cancer Caregivers, Cancer Non-Caregivers, and Non-Cancer Non-Caregivers. At baseline and 15-18 months later, we measured indicators of life quality and caregiver demands: satisfaction with support, well-being, perceived support, loneliness, and hours spent caregiving. Cancer Caregivers reported poorer social supports and more time caregiving. This is important because previous work has shown that Cancer Caregivers have more negative and fewer positive life experiences and that these are related to the ability to fight tumor growth. Despite innovations, this study only included white Americans. Also, to increase participation among persons with cancer, we only included those who were not treated for at least one year and who had not suffered from serious forms of cancer. Our results would probably have been stronger had we included persons with more serious cancers, but such individuals might not have participated or been able to be caregivers. Given the rapid rise of cancer in China, we suggest that research examine cancer and caregiving in China and that cross-cultural research be done in the U.S. and China. To understand the dynamics of caregiving, health and well-being, one needs to study these processes cross-culturally.