



UNIVERSITY OF
NORTHERN
COLORADO

McNair
scholars
P R O G R A M

2020 McNair Summer Research Colloquium July 23, 2020, 8:50am – 12:45pm

8:50-9:00 – Welcome

9:00-10:00 – First Presentation Block

- 9:00-9:15 – Olivia Bobbitt: *Stages of Racial Identity Development among Multiracial Undergraduates*
Faculty Mentor: Dr. Cliff Leek, Sociology

Individuals who identify as multiracial have been on the rise since interracial marriages became legal in 1967. It wasn't until the 2000 US Census where "two or more races" became an option for individuals to identify as. Previous research on multiracial individuals focuses on individuals whose racial heritage is a mixture of Black and white. While this research is rich and informative, it fails to incorporate individuals that identify as two or more marginalized racial identities such as Black/African American and Hispanic or Asian Pacific and Native American. This study addresses this gap in research by focusing on individuals who identify as two or more marginalized racial identities and how that influences their racial identity development. The purpose of this study is to qualitatively explore – through Poston's biracial identity development model – the life experiences of multiracial individuals that identify as two or more marginalized races through 45 to 60-minute semi-structured interviews. This study seeks to answer how identifying as multiracial with two or more marginalized races influences an individual's racial identity development. Multiracial individuals are faced with unique challenges within society, such as experiencing duality among their racial identities, not feeling like they belong, and learning to navigate life through a multiracial lens. It is important to stay up to date on this growing population, as well as having a better understanding of their racial development journey. This population has different challenges they need to navigate in order to feel comfortable with who they are and within society.

- 9:15-9:30 – Yessica Berumen Martinez: *Intergroup Perceptions of Skin Color Preferences and Dating among Latinx Adults*
- Faculty Mentor: Dr. Kyle Anne Nelson, Sociology

This study surveyed 165 Latinx participants at a mid-sized university to determine if self-perceived skin color and membership in social groups influenced skin color preferences for romantic partners. The Latinx population in the United States makes up 18% as of 2018, this makes Latinx the "second-fastest-growing racial or ethnic group" (Krogstad & Noe-Bustamante, 2019). Latin American researchers assert that skin color influences your social standings; Influencing income, education level, self-esteem, and other factors. Skin color could potentially influence who Latinx individuals choose to date and marry. Participants completed the In-group Colorism Scale by Harvey, Banks, and Tennial (2017) and answered additional questions on skin tone perceptions on dating, and parent and friend influences. Past research shows that parental influence might be contributing to this ideal of dating lighter skin colored individuals. In this study there is a significant influence from parents on dating preferences in comparison no friend influences is no existent. Surprisingly, this study also found that self-concept is important to darker skin individuals. Documenting any correlation between Latinx and dating can not only contribute to the understanding of colorism, but could open up more dialogue across all racial and ethnic groups about bias and prejudice based on skin tone. Further, it is the researcher's hope that this study will inform critical race studies to combat racial and ethnic inequalities.

- 9:30-9:45 – Joelle Jenkins: *Aspects of Identity that Inform Black College Students' Experiences and Considerations of the Natural Environment*

Faculty Mentor: Dr. Chelsie L. Romulo, Geography, GIS, & Sustainability

Previous researchers have questioned whether people of color show concern regarding nature. Some studies suggested they do not show concern, while others suggest they are just as or even more concerned than their white peers. These studies did not examine the reasons behind having an affinity for nature, which is a problem because they did not thoroughly explain and provide context to those affinities. This research explores preferences and thoughts relating to black undergraduate students' experiences in the natural environment. In this study, we propose a new paradigm to understand how one chooses to interact with the natural environment. Understanding the factors involved will strengthen the awareness of underrepresented groups' attitudes and perceptions toward natural surroundings through use of an in-depth lens to advance the perspective of environmental attitudes. The aim of this study is to answer the question: "How does one's black identity inform their experiences with the environment, and why do they feel that way?" A thematic analysis of 10 interviews will take place to better answer this question. Anticipated topics include trends in knowledge, likes and dislikes, values and beliefs, and behavior related to identity and experience in natural settings. Preliminary findings from interviewees show that the word environment is associated with sustainability and environmental justice is associated with environmental racism. This study is important for addressing environmental issues in diverse communities because it allows voices to be heard so that they can be included in environmental decision-making paradigm to understand how one chooses to interact with the natural environment. Understanding the factors involved will strengthen the awareness of underrepresented groups' attitudes and perceptions toward natural surroundings through use of an in-depth lens to advance the perspective of environmental attitudes. The aim of this study is to answer the question: "How does one's black identity inform their experiences with the environment, and why do they feel that way?" A thematic analysis of 10 interviews will take place to better answer this question. Anticipated topics include trends in knowledge, likes and dislikes, values and beliefs, and behavior related to identity and experience in natural settings. Preliminary findings from interviewees show that the word environment is associated with sustainability and environmental justice is associated with environmental racism. This study is important for addressing environmental issues in diverse communities because it allows voices to be heard so that they can be included in environmental decision-making.

- 9:45-10:00 – Questions

10:00 – 10:15 - Break 1

10:15-10:55 – Second Presentation Block

- 10:15-10:30 – Abril Olivas: *Culturally Responsive Pedagogy: An Analysis of its Presence within a Teacher Preparation Program*

Faculty Mentor: Dr. Dana Walker, Teacher Education

Culturally responsive pedagogy (CRP) is a method in which the teacher considers their students' background to create effective lessons that cater to the student and practice critical self-reflection, compassion, and hold high expectations towards the students they serve. Scholarship on CRP has been composed of definitions and examples of an effective culturally responsive teacher as well as the effects its practice has on student achievement and engagement, yet there is limited analysis on teacher preparation, and how these effective teachers came to be. The following study evaluates the presence and instruction of CRP within a secondary education program through a content analysis of course syllabi in attempt to gather a better understanding on how a teacher preparation program contributes to a teacher candidate's understanding of CRP and how to best implement its components within their future classrooms. Through development within teacher preparation programs it can be linked to the production of the productive practice of CRP on behalf of teachers, which benefits the growing diverse populations within the United States within the education system. The results display limited assessment and practice of culturally responsive teaching elements such as critical self-reflection and culturally responsive lesson planning, but an existing introduction of CRP to teacher candidates within the program.

- 10:30-10:45 – Casey Montoya: *Food and Housing Insecurity of College Students at the University of Northern Colorado*

Faculty Mentor: Dr. Liz Gilbert, Community Health Education

“Over the last decade, multiple studies of food insecurity among college students have found that food insecurity rates among college students to be from 20% to more than 50%, considerably higher than the 12% rate for the entire US population.” (Freudenberg et al., 2019) Food and housing insecurity is a problem occurring on college campuses that have grown rapidly across the United States. In the current study, researchers were interested in experiences, factors, and attitudes of undergraduate students towards food and housing insecurity at a midsized university located in the Midwestern United States. Although food and housing insecurity is defined, it has been seen that students generally do not recognize the situations as such. Using a web-based questionnaire, a random selection of 28 undergraduate students at the participating university were asked questions regarding their experiences and attitude of food and housing insecurity situations. As an outcome, results revealed that: 41% of students identified as Hispanic/Latino, 29% of students identified as White/Caucasian, 15% identified as Black/African American, 9% identified as Multiracial, and 3% identified as/or American Indian/Alaskan Native or Asian American, have had experiences of food and housing insecurity at the university. Skipping meals to make groceries last longer and/or skipping meals to pay for bills are experiences that are commonly reported. Findings from this current study targeted and identified experiences and attitudes of food and housing insecurity within the midsized university. Furthermore, these qualitative results can be used for food and housing insecurity understanding and resource creation measures across colleges/universities.

- 10:45-10:55 – Questions

10:55 – 11:00 - Break 2

11:00-11:40 – Third Presentation Block

- 11:00-11:15 – Andrea White: *How the Chameleon Effect Impacts Introverts and Extroverts in Social and Academic Settings*

Faculty Mentor: Dr. Cassandra Bergstrom, Psychological Sciences

The chameleon effect is a phenomenon in which people unconsciously copy other people’s behaviors so they match the people around them in interactive settings. It is important for college students to know what type of personality they have and how that personality type is impacted by this phenomenon. The result of this knowledge can help them better understand their behavior in academic and social settings, which will make them more aware of said behaviors. This will help students be safer in these situations, as well as help them to stop the behavior faster. The chameleon effect and the personality traits of introversion and extroversion have been studied in previous literature in many ways separately, but not together in the manner this research has done. This study investigated how the chameleon effect may impact introverts and extroverts differently in social and academic settings, with the intention of finding who is more impacted by the phenomenon in these settings. The study used a survey with two parts: an introversion and extroversion scale and four stories; two about social settings and two about academic setting. The data analysis looked at the correlation between introversion/extroversion and the chameleon effect. The hypothesis was that in social settings, extroverts will be more impacted by the chameleon effect than introverts, and vice versa in academic settings. The data did show this pattern with stipulations. The hope is to expand this research to other populations, such as children.

- 11:15-11:30 – Mia Trojovsky: *Psychopathy and Harm Avoidance as Mediators in the Pathway between Childhood Maltreatment and Adult Attachment Style*

Faculty Mentor: Dr. Marilyn Welsh, Psychological Sciences

Research has established that there is a general association between initial attachment behavior and experiences that take place early in life, so it is reasonable to expect the presentation of maladaptive attachment behavior in individuals who have a history of negative experiences. Our previous study found that college students with a childhood maltreatment (CM) history reported increased rates of anxious attachment. In this sample, the relationship between CM and anxious attachment was partially mediated by psychopathic personality traits, particularly the blame externalization component of psychopathy. Alternate components of personality may influence the relationship between CM and attachment in differing ways. According to previous studies, harm avoidance (HA) has been observed as a developmental outcome of CM. Studies involving HA and attachment have found that those exhibiting more HA seek out relationships less frequently. The existing research examining HA in relation to both CM and attachment style is limited. In these previous studies, it was found that HA developed in individuals with a history of parental overprotection as well as those with a history of parental punishment (Stenbæk, Jensen, Holst, Mortensen, Knudsen, & Frokjaer, 2014). The present study utilized a second sample of individuals in order to investigate this relationship. In this sample, # college students who reported higher rates of CM also reported higher levels of harm avoidance. Additionally, those who reported increased rates of anxious attachment also reported higher levels of harm avoidance. The anticipatory worry subscale of harm avoidance was found to fully mediate the pathway between a history of sexual abuse and anxious attachment. Both studies together demonstrate that maladaptive personality characteristics are associated with maltreatment history, which in turn predicts challenges with healthy attachment in young adulthood.

- 11:30-11:40 – Questions

11:40 – 11:50 - Break 3

11:50-12:30 – Fourth Presentation Block

- 11:50-12:05 – Theresa Schwartz: *Determining Dietary Niche in Primates Using Portable X-Ray Fluorescence*
Faculty Mentor: Dr. Marian Hamilton, Anthropology

Diet is a critical component of the ecology of extant and extinct animals. Many dietary reconstructions involve destruction of the sample. Portable X-Ray Fluorescence (pXRF), however, is a non-destructive method of gathering elemental data from skeletal remains, plants, or objects. This is very important for research in biological anthropology and diet reconstructions because it leaves the sample intact for specimens of which there might only be few samples. There is a lack of dietary reconstructions using non-destructive methods and especially using pXRF. This method is portable, cheaper, and can be as accurate as destructive methods and should therefore be implemented more into research of this nature. This research attempts to validate this method by determining dietary information about six primate skulls. By looking at strontium (Sr) and calcium (Ca) ratios within the teeth of these primates. I assess if they were more likely to be a folivore (leaf-eater) or frugivore (fruit-eater) and dietary breadth (whether their diet was specialized or more generalized). Because leaves have higher Sr/Ca ratios than fruits, it is likely that primates with a low reading of Sr/Ca ratios will fall into the frugivore diet range, whereas high Sr/Ca ratios will indicate a more folivorous diet preference. I compare the result from this study to results from a previous study that used mesowear to reconstruct the diet of these same samples. This study yielded the same conclusions as the mesowear study and shows the potential of pXRF to reconstruct dietary categories. The results also show higher standard deviations for some primates and a low standard deviation from others, which indicates the pXRF's ability to indicate dietary breadth. It should therefore, be implemented on a greater scale.

- 12:05-12:20 – Yessica Rodriguez: *Quantification of Male and Female Feather Temperature in Relation to Color in American Robins (Turdus Migratorius)*
Faculty Mentor: Dr. Lauryn Benedict, Biological Sciences

Studies of sexual dimorphism in animals have focused primarily on visible features such as those of size or appearance. American Robins (*Turdus migratorius*) exemplify physical differences between males and females, where males present darker plumage colorations. American Robins also use thermoregulation to control body temperature, using feathers to serve as a buffer between their body and the environment. This study was designed to test for a relationship between feather temperature and feather coloration in American Robins. I predicted that darker colored feathers would exhibit more absorption of heat compared to lighter colored feathers. I also predicted that because males exhibit darker feathers, they would exhibit more absorption of heat. Temperature readings of feathers collected during the summer 2019 field season were recorded and compared against color specifications from HEX codes in Adobe Photoshop. Feathers were placed on a self-made apparatus and exposed to three different wattages of light (80W, 125W, & 160W). The warmest areas on the feathers were located with a thermal imager, and then temperature was measured with a thermometer for accurate measurements of temperature. Measurements of temperature before exposure acted as the control group, and the three wattages of light gave the experimental groups. I tested for a correlation between color and temperature using statistical regression, and I also tested for a sex-based difference using t-tests. This research aimed to expand on the current understanding of sexual dimorphism in American Robins; findings may additionally account for other evolutionary observations that generally apply to avian species.

- 12:20-12:30 – Questions

12:30-12:45 - Closing Remarks and Acknowledgements