

MONMOUTH UNIVERSITY

HONORS SCHOOL



The Honors School
Research Conference
Fall 2020

***With great pleasure, the
Honors School presents its
Fall 2020 Research Conference***

Students will be presenting their research in the following fields:

Anthropology (AN)

Biology (BY)

Business (BU)

Chemistry (CE)

Education (ED)

English (EN)

Health Studies (HE)

History (HS)

Political Science (PS)

Psychology (PY)

Sociology (SO)

**FALL 2019
HONORS SCHOOL
RESEARCH CONFERENCE SCHEDULE
Friday, December 11, 2020**

Opening Remarks: Dr. Nancy J. Mezey, Dean of the Honors School

Presenting Honors Students:

Felicia Aschettino, Business with a Concentration in Finance

Brittney Bobowski, Chemistry with a Concentration in Biochemistry

Jesse Bragger, Biology

Kellsey Church, Chemistry

Skylar Daley, English

Saine Hernandez-Burgos, Anthropology

Isabella Huzar, Health Studies

Melissa Lauria, English & Secondary Education

Skylar Rathvon, Sociology

MacKenzie Ricca, Political Science

Amanda Skunakis, English; Creative Writing & Secondary Education

Emma Sytsema, Psychology

Emily Tucker, Health Studies

Roman Vai, Business with a Concentration in Marketing & Management

Elisa Villa, Psychology

James Watson, History

Opening Remarks

DR. NANCY J. MEZEY, *Dean of the Honors School*

Student Abstracts in Alphabetical Order:

FELICIA ASCHETTINO (BUBF) | *The Finances Behind Theatre
Crowdfunding Campaigns*

First Reader: Dr. Jonathan Daigle

Second Reader: Dr. Stuart Rosenberg

With both theatre and business being key interests in my life, I plan to look at both successful and failed Theatre Kickstarter programs to see if there are any specific determinants that led to the success or failure of programs. Theatre is an entertaining and crucial art form and even though it is typically looked down upon by society, the world as a whole would look drastically different without it. Because many do not believe in or appreciate the arts as a whole, there is often a lack of funding or attendance, which leads to theater programs shutting down or shows closing before their anticipated closure date. I plan on looking into successful, failed, and canceled theater Kickstarter projects back to April 2009. With over 7,000 campaigns in relation to theatre, I plan to look directly at the successful and failed projects to try and find a correlation between the two. Through my research, I want to see if there is a link between finance and theatre and if it specifically results in the success or failure of particular projects.

BRITTNEY BOBOWSKI (CE.BY) | *Venom: Death or Relief*

First Reader: Dr. Greg Moehring

Second Reader: Dr. Danuta Szwajkajzer

People all over the world suffer from several forms of pain and struggle to find relief. Chronic pain, also known as everyday pain, plagues a fair portion of people. Opioid drugs, like morphine, prove to be effective for only some people, and those people then experience various side effects while developing an addiction for the pain-relieving drugs. Hence, the need for a drug that can help soothe the ache of people with chronic pain. Venoms from various types of animals contain bioactive compounds that can be of use for medicinal properties. This is because the structures of these compounds act similarly to the structure of common pain relievers such as oxycodone, which is used to treat moderate to severe pain. These structures bind to the receptors in the sodium ion channel that are used to block pain, just as the opioid drugs do. Scientists are particularly interested in the TTX toxin because it has shown potential to be used for pain relief. However, there is an issue, the compounds found in venoms can also bind to other receptors in the channel that do not block pain and so far, the venoms are still too toxic to be of human use yet.

Jesse Bragger (BY) | *Differences in Behavior Among House Mice from Different Climates*

First Reader: Dr. Megan Phifer-Rixey
Second Reader: Dr. Richard Bastian

There are now many examples of environmental adaptation in widely observed species. House mice, *Mus musculus domesticus*, have adapted to their new environments in the Americas after their arrival ~500 years ago from Western Europe. Behaviors are a class of phenotypes that can have a great impact on fitness of an individual including mating success, food search, or predator avoidance. It is known that nesting behavior varies over a climatic gradient on the East Coast of the United States and that those differences have a genetic basis. Little is known about variation in other behaviors in these mice, like exploratory behavior, activity levels, and refuge all of which may contribute to fitness. In this experiment, mice from wild-derived house strains derived from five locations (Saratoga Springs, New York (NY); Edmonton, Alberta, Canada (EDM); Gainesville, Florida (FL); Tucson, Arizona (AZ); and Manaus, Amazonas, Brazil (BR)) were tested using two classic rodent behavior assays, a light and dark test and an open field test spaced one week apart. This study will ask if there are differences in the use of refuges, activity levels and exploratory behavior between both male mice of strains derived from different locations.

KELLSEY CHURCH (CE) | *Levels of Selected Toxic Heavy Metal(loid)s in JUUL Electronic Cigarette Devices*

First Reader: Dr. Tsanangurayi Tongesayi
Second Reader: Dr. Massiliano Lamberto

Copious novel scientific research is currently being performed regarding electronic cigarettes (e-cigarettes) in response to surfacing short-term side effects. Studies have shown that short-term use of e-cigarettes can cause respiratory inflammation and can decrease the antimicrobial function of alveolar macrophages¹. The sources of these adverse health effects are currently unknown. E-cigarettes are used to deliver nicotine into the body through an aerosol produced by a metal coil composed of nickel (Ni), chromium (Cr), lead (Pb) and tin (Sn) which is located in the battery of the device¹. This coil is used to heat a liquid containing propylene glycol and glycerin which administers aerosol². These devices do not produce carcinogens, such as 4-methylnitrosamino-1-(3-pyridal)-1-butanone³, that are found in tobacco, and hence are considered safer alternatives. However, the metals in e-cigarettes are known toxicants and could cause toxicity in users¹. It is hypothesized that the metals are leaching from the structure through the vaporization process⁴. Thus, the goal of this study was to determine the levels of selected heavy metals in JUUL brand e-cigarettes. Analysis was performed using X-ray fluorescence spectroscopy. Traces of Ni, Cr, and Pb were found in the device but the e-liquid readings were below the detection limit. Other metal(loid)s were detected in the e-liquid such as iron (Fe), copper (Cu), manganese (Mn), and arsenic (As).

SKYLAR DALEY (EN) | *Destroy the Pearls: A Look into the Longevity of the Penny Dreadful The String of Pearls*

First Reader: Dr. Jeffrey Jackson

Second Reader: Dr. Sue Starke

This thesis examines the 1846-1847 serial novel *The String of Pearls (A Romance)*, generally attributed to James Malcolm Rymer or Thomas Peckett Prest. The novel has changed names multiple times throughout the years since publication. The name that remains notorious thanks to George Dibdin Pitt and Stephen Sondheim is "Sweeney Todd: The (Demon) Barber of Fleet Street," in which all but the parenthesis was coined by the former. Returning to the novel form, the story itself creates a lowlife picture of London that is riddled with secret societies, theft, cannibalism, and cold-blooded murder. These themes were often questioned by the Victorian era critics, who deemed this novel a part of the penny dreadful or penny bloods, serial novels that took creative liberty with "taboo" plot lines. They were often discredited as being trashy and incomparable to respectable authors such as Charles Dickens or William Makepeace Thackeray.

The serial penny dreadful grew out of gallows literature which began around the 1730s. In short, this was an early version of the true-crime novel where an author would create a fictional rendition of the week's executed criminal and publish it in a magazine. Eventually the stories strayed away from actual criminals and morphed into full-fledged fictional crime pieces. These stories were figuratively drenched in blood. Often, murders, petty crime, rape, etc., were main features of these stories. Such was the case with *The String of Pearls, a Romance*.

SAINE HERNANDEZ-BURGOS (AN) | *The Count's Skull: An Exploration of the Analysis of Human Remains*

First Reader: Dr. Hillary DelPrete

Second Reader: Dr. Richard Veit

This research focuses on determining whether the alleged skull of Colonel Carl von Donop, which is currently housed in Rutgers University New Brunswick, actually belongs to the Hessian colonel. The famous Colonel was wounded in the Battle of Red Bank in October 22, 1777 and perished three days later. Colonel von Donop's corpse is said to be buried in the Red Bank Battlefield, where his skull was removed by grave hunters and his teeth kept as souvenirs. The skull was later donated to Rutgers University. Suspicions about the identity of the skull arose, and the rumor that the skull belonged to a Native American individual was introduced. Through the use of FORDISC, a discriminant function computer program, this study will analyze the cranial landmark measurements of the skull to produce a possible biological profile of the individual. These cranial landmark measurements were acquired with the use of spreading and sliding calipers. Anthroposcopic methods will also be applied to predict the ancestry of the individual. The possibility that the skull could belong to a Native American individual is concerning due to the Native American Graves Protection and Repatriation Act (NAGPRA). By using FORDISC, a program whose reliability is still being questioned by forensic anthropologists, alongside visual and other metric assessments of the skull, this research will contribute to the field by further understanding the advantages and disadvantages of these methods of biological anthropology.

Isabella Huzar (HE) | *Content Analysis of Online Messages of Diet as it Relates to Skincare*

First Reader: Dr. Christopher Hirschler

For years researchers have neglected to link the effects of diet with skin health. Only recently have studies evolved that have expressed the distinct association between various vitamins and nutrients present in one's diet and their impact on the skin. While these rudimentary studies focus on various nutrients found in all diets, I narrowed that research to question how the constituents of a vegan diet may affect one's skin. The current study assessed what formal, commercial websites and informal, non-commercial websites, portray about vegan diets as they relate to skin health.

A sample size of thirty commercial websites and thirty non-commercial sites were assessed on their content, including messages related to skin health and messages related to vegan diets. A code sheet was used to determine the percentage of these online platforms that are conveying messages that link the two variables. This study was built on the Theory of Reasoned Action, in particular, the Belief of Consequences aspect of the theory was put in place to assess whether this online information is aiding individuals in making a change to their behavior.

The results of this study indicate that the hypothesis was correct such that there is minimal research and information online linking a vegan diet to improved skincare. From these results we would anticipate that individuals remain uninformed and therefore will not be inclined to make a behavior change. The results from this study can be implicated to skincare professionals seeking to educate their patients on alternatives to dermatologic medications or to dietitians promoting a vegan diet.

MELISSA LAURIA (EN.EDS) | *On the Bilingual Road: A Linguistic Analysis of Jack Kerouac's Original Scroll of On the Road*

First Reader: Dr. Stanley Blair

The project will argue that, in the original scroll of *On the Road*, Jack Kerouac's development and use of Spontaneous Prose was a response to his complicated ethnic identity. His use of this specific style served two purposes, to overcome a language barrier and to resist assimilation into the dominant culture.

First, as Kerouac's first language was French, he used the spontaneous method to bypass Standard English conventions of correctness that could interfere with his writing. Second, Kerouac uses Spontaneous Prose to reconcile his relationship with America. Through writing incorrectly, Kerouac asserts his individuality not only to resist conformity to and assimilation into mainstream American society, but also rhetorically to indicate a more diverse, multicultural view of society in which he can be equal.

According to Postcolonial Cultural Studies literary theory, White Anglo-Saxon Protestant America acts as the "empire" that Kerouac feels disconnected from, being a French-Canadian Catholic. As he attempts to assimilate into American culture, Kerouac negotiates his precarious identity through his use of language. Therefore, Standard American English acts as a linguistic representation of White Anglo-Saxon Protestant culture. Subverting the language of this mainstream culture allows Kerouac to partially assimilate into American culture, while also partially maintaining his Franco-write in a non-native language. Kerouac's spontaneous prose method has been used as inspiration for pedagogical practices such as free writing, which may be useful in ELL classrooms.

SKYLAR RATHVON (SO) | *Comparing Mainstream and Indigenous Media Coverage of *McGirt v. Oklahoma* in Relation to the Protection of Indigenous Women*

First Reader: Dr. Jennifer McGovern

This project aimed to look at the ways in which colonization, government policies, and media have worked to create a cycle of violence against indigenous women. Previous literature covered topics surrounding laws and policies that work against native women; however, past research fails to connect how the media's coverage, or lack thereof, of indigenous issues and events perpetuates violence against indigenous women. This study drew from a sample of online-sourced news articles to examine the similarities and differences in mainstream and indigenous media coverage of the *McGirt v. Oklahoma* Supreme Court case. 38 articles were chosen from mainstream, national and local news websites and indigenous-ran online news websites; in order to qualify to be in the sample, these articles must state content related to the *McGirt v. Oklahoma* case. Articles were coded based on their coverage of the case, and if the articles relate the ruling to violence against indigenous women. Data was analyzed using crosstabs, and as hypothesized, indigenous articles were the most likely to mention the McGirt ruling in relation to violence against women when compared to mainstream media. The exclusion of indigenous issues from the mainstream media aligns with Tribal Critical Race Theory which argues that not only are minority issues overlooked by the majority population, but indigenous issues are especially misunderstood due to historic effects of colonialism.

AMANDA SKUNAKIS (EN.CW.EDE) | *The Effects of Technology in the Math Classroom*

First Reader: Dr. Walter Greason

This research project will cover how various computer programs used in the classroom aid students in mathematical instruction. While iPads, smart boards, and computers provide many positive ways for teachers to teach various topics the high demand for these devices have made incorporating them in the classroom, not as practical as we think. This thesis will use a collection of studies that have been performed in schools with students who are exposed to this technology daily. Also being analyzed will be, the opinions of teachers who did not grow up with these devices but due to the ever-changing classroom environment, will have to incorporate them into their everyday learning style. The hope is that after this study is concluded, readers will gain a new insight into how personal devices is affecting the math classroom.

EMMA SYTSEMA (PY) | *Who You Callin' Blonde, Bimbo?*

First Reader: Dr. Kimberly Callas

This art based thesis consists of a series of 6 individual pieces that are all representative of blonde hair and the "dumb blonde" stigma. Blonde hair has been known to receive positive bias in social situations but a negative bias is present against blondes in regards to intelligence and competence (Clayson & Klassen, 1989; Kyle & Mahler, 1996). This thesis project is an extension of a previously completed psychology research thesis which experimentally investigated the effect of hair color on perceived competence. The psychology thesis added to the existing body of knowledge on blondes and the "dumb blonde" stigma objectively with scientific data. This thesis uses the arts to add a subjective, personal, and raw voice to the subject area of blonde hair. The goal of this series of artwork is to increase awareness and bring attention to the allure and phenomena of the blonde (based in western culture) and the harmful stereotype of the "dumb blonde".

MACKENZIE RICCA (PS) | *Profiling the Female Extremist- Examining the Motivation of Female Islamic Terrorists*

First Reader: Dr. Saliba Sarsar

Second Reader: Dr. Kevin Dooley

The female Islamic extremist is in fact fundamentally different from a male Islamic extremist. This analysis will create an overarching complete profile of the mind of the female Islamic extremist based on three influences – religion, regional stressors, and societal influence. Theories from psychology, criminology, and political science will be utilized in the profile of the female suicide bomber, the “administrative leaders,” and the “motherly influencer” within different Islamic caliphates. By examining case studies and trends of women engaging in these activities over the last ten years, a new theory will be presented to explain the motivations females have to partake in Islamic extremism.

EMILY TUCKER (HE) | *Content Analysis: Non-Governmental Organizations Contribution in Addressing the Barriers to Attaining Health Care Faced by Indigenous Guatemalan Communities*

First Reader: Dr. Andrea Hope

According to the United Nations, there are a known 370 million indigenous people across the globe who face considerable barriers to health. Over 40% of the Guatemalan population identify as indigenous and face significant obstacles in accessing health care including war, historic prejudice, ethnic inequality, discrimination, accessibility, education, and language. This research aims to clarify the roles of Non-Governmental Organizations (NGOs) in reducing barriers to accessing healthcare for Indigenous Guatemalan communities. A content analysis of NGO websites revealed that education was the only barrier mentioned throughout the literature that was universally addressed. While the majority of organizations considered language only a small percentage of organizations provide translation services for Mayan dialects. Additionally, there was minimal mention throughout the content that addressed the alleviation of barriers related to accessibility, specifically financial cost, and geographic location. This research adds to the existing literature by evaluating the stated roles of Non-Governmental Organizations in reducing barriers faced by indigenous Guatemalan communities.

ROMAN VAI (BUBKMS) | *Creating a Marketable Cost Structure for New York Television and Film Production*

First Reader: Professor P. Jeffrey Christakos

Second Reader: Professor Maiya Furgason

The global pandemic of COVID-19 has forced the film and television industry to dismantle and restructure in order to accommodate for the changing dynamics of the pandemic. In this time of reflection and transition, my study indicates a viable way forward for the film and television industry. Using the concentrations of cultural theory, marketing, accounting, and economics, and grounded in original qualitative data collected through interviews with industry leaders, this research hopes to analyze and predict market behavior of the film and television industry to create a new costing-structure for application. The study also explores the value our society places on art, the inconvenience of a production pipeline, and the proposed solutions to the future of media consumption. The result will be a partial business plan and competitive analysis that can be used as applied research for entrance into the entertainment market.

ELISA VILLA (PY) | *Seizure Disorder Masquerading as Borderline Personality Disorder*

First Reader: Dr. Christine Hatchard

A 15-year-old right-handed female, formerly diagnosed with Borderline Personality Disorder (BPD), presented with dramatic emotional mood swings, severe anxiety, and suicidal tendencies. However, after a referral for a neuropsychological consultation, she was re-diagnosed with several psychological disorders, including Attention Deficit Hyperactivity Disorder, Major Depressive Disorder, Generalized Anxiety Disorder, and two learning disorders. However, the patient endorsed unusual additional symptoms during the consultation and subsequent office visits: changes in taste/smell, "funny stomach feelings", illusions at night, feeling like she is falling prior to falling asleep, and déjà vu. Therefore, the patient was referred for a neurological consultation. Subsequently, she was diagnosed with Temporal Lobe Epilepsy (TLE) with Left Mesial Temporal Sclerosis (LMTS), post neuro-imaging. Repeat neuropsychological testing after the patient was properly managed on anti-epileptic medication demonstrated improvements in verbal learning, abstract reasoning, and information processing speed, as well as the resolution of some psychological symptoms. The psychiatric symptomology experienced by this patient which is commonly associated with BPD, as well as other related disorders, can also be presented by some seizure disorders and/or other neurological conditions such as TLE. However, it is only through the proper assessment of psychiatric and neurological differentiation that proper treatment and symptom alleviation can begin.

JAMES WATSON (HS.EN) | *The Rose that Grew From Harlem: Tracking the Pessimism in 20th Century African American Protest Literature*

First Reader: Dr. Hettie Williams

Second Reader: Dr. Frank Fury

The twentieth century contained multiple African Americans movements that helped to change the conversation about Black agency within the United States. The Harlem Renaissance, The Black Arts Movement (within the Civil Rights Movement), and the Hip Hop Era are three distinct movements within this period that had a tremendous impact on the African American community. My project focuses on black protest literature in the twentieth century with an emphasis on the major works within the larger cultural movements of this century from the Harlem Renaissance to the Hip Hop era. Through prominent protest literature, these movements were able to take shape and allow for immense social change to permeate through the time periods. In this project, I look at the writings of Claude McKay, James Baldwin, and Tupac Shakur in order to analyze the social change that is prevalent within each respective era. In Claude McKay's *If We Must Die*, the collective voice demonstrates a cautious optimism with pessimistic undertones about the position of Black Americans during the Harlem Renaissance. By the time the Black Arts Movement came about in the 1960s, James Baldwin's *The Fire Next Time* becomes a piece of protest literature that takes some of McKay's optimism and brings about concepts of afro-pessimism and distrust of the American system. Finally, with Tupac Shakur's groundbreaking album titled *Me Against the World*, the collective African American position has moved completely away from McKay to mirror one of intense pessimism (described as afro-pessimism) and a complete distrust of the social position of the Black community. Overall, I discuss both the continuities and discontinuities in black protest thought now characterized by a strident pessimism and apathy. It is through these shifts and these authors that it is shown how the cautious optimism present within the Harlem Renaissance transitioned into the pessimism that continues in the 21st century. It is through these concepts that I explain how the current state of protest came about in the African American community in both content and tone. I combine both literature, historical analysis, and theory to articulate the trends that were present in protest literature throughout the 20th century and convey the shifts that occurred throughout the three major African American movements that shaped the world today.

A Message from Dean Mezey

A main purpose of the Honors School is to provide our high achieving, high ability, and highly motivated students at Monmouth University the guidance and support they need to take a deeper dive into their intellectual passions, explore fields of study that expand those passions, and connect them with like-minded students and faculty.

One way we achieve this purpose is through the Honors School's curriculum which encourages students to take ownership of their education. The curriculum culminates in an honors research thesis or creative capstone project that provides students with the time and space to engage in serious academic work in which they ask important and challenging questions, work toward solving difficult problems, and create and share new knowledge.

In any given year, the Honors School Research Conference is an opportunity for our students to share their work with the campus community. What is extraordinary about this Fall 2020 Honors Research Conference is that the students who are presenting their research this semester began and completed their work through, and in spite of, the Covid-19 global pandemic. Students must always show passion, tenacity, perseverance, and focus to complete their honors thesis/capstone projects. The students who are presenting their research here unquestionably exemplify those qualities!

Also during this challenging time, and along our students' intellectual journeys in general, a host of faculty and staff – especially our thesis advisors, first and second readers, and honors professors – support, advise, and engage our honors students. So please join me in thanking our faculty and staff who supported our students and the mission of the Honors School.

Most importantly, please join me in congratulating our honors students who are presenting their research this fall, and for achieving such an impressive milestone during such a challenging time. Students, on behalf of the Honors School, we are very proud of you!



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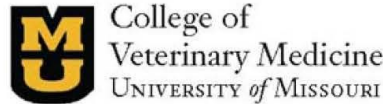


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