

# CREATE

CELEBRATING RESEARCH EXCELLENCE & ARTISTIC TALENT AT EASTERN

April 21, 2023



**EASTERN  
CONNECTICUT  
STATE UNIVERSITY**



CREATE stands for Celebrating Research Excellence and Artistic Talent at Eastern, and it is the university's annual conference showcasing student research and creative activity. The one-day conference includes talks, professional posters, live music, art exhibits, documentaries, and panel discussions. CREATE displays the vitality of Eastern as Connecticut's premier public liberal arts institution.

In support of the University's current strategic plan, CREATE serves to:

- Showcase excellence across all academic programs
- Reinforce high-impact practices such as mentored research and creative projects
- Increase the percentage of students presenting their research and creative work
- Allow students to demonstrate our liberal arts employability skills – critical thinking, ethical reasoning, creativity, communication, and quantitative literacy
- Raise public awareness of Eastern's uniqueness and the accomplishments of our students
- Contribute to the intellectual richness of our campus community

We are thrilled to be back on ground and in-person for this year's CREATE. Thank you for attending CREATE 2023 and congratulations to all of our participating students for their hard work and academic achievements!

*Eastern Connecticut State University engages students from diverse backgrounds in a transformative, liberal arts learning experience that provides knowledge and skills to lead enriching, purposeful lives.*



April 21, 2023

Schedule at a Glance

Time	Student Center Meeting Rooms	Student Center Theater	Betty Tipton Room
8:30 - 9:00	Registration - Outside Student Center Café		
9:00-10:30	Concurrent Sessions		Poster Set Up
10:30-12:00	Concurrent Sessions		Poster Set Up
12:00 - 1:00	Lunch Student Center Café		
1:00 - 2:30	Concurrent Sessions	Musical Performances	Poster Set Up
2:30 - 4:00	Concurrent Sessions		Poster Set Up
4:00 - 5:00	Poster Presentations - Betty Tipton Room		
5:00 - 5:30	Reception and Awards Ceremony – Betty Tipton Room		

Artwork Display  
**Wood Support Center Gallery**  
 1:00 – 5:00

**Detailed Schedule of Oral Presentations/Panels/Performances**

<b>Session A: 9:00 – 10:30</b>				
	<b><u>MR 107</u></b>	<b><u>MR 113</u></b>	<b><u>MR 217</u></b>	<b><u>MR 219</u></b>
<i>Moderator</i>	<i>Allison Speicher</i>	<i>Chris Torockio</i>	<i>Vijay Veerappan</i>	<i>Bradley Davis</i>
<b>9:00-9:15</b>	<b>Marcus Grant</b> <i>English</i> From the New Mother to the Other Mother: An Intersectional Look at Age and Class in Neil Gaiman’s Coraline and Lucy Clifford’s “The New Mother”	<b>Frank Corbett, Kai-li Davey, Regina Grant, Maisie Hayes, Skylar Mink, Clelie-Ann Ryan, Marcus Grant</b> <i>English</i> A Celebration of Eastern's Fiction Writers	<b>Megan Piechowicz</b> <i>Biology</i> Phenotypic Characterization, Identification of Mutations and mRNA Expression Analysis of Flavonoid Pigmentation Mutants in the Model Legume Plant <i>Medicago truncatula</i>	<b>Jarod Werner</b> <i>Political Science</i> The 2016 Connecticut Presidential Primaries: Political Independence, Town Demographics, and Support for Outsider Candidates
<b>9:15-9:30</b>	<b>Elliot Lawrence IV</b> <i>English</i> The Male Teacher as Caring Pragmatist, Finally		<b>Dylan S. Tillman, Caitlin M. Wagner, Athenea Acosta</b> <i>Biology</i> Exploring the Potential of Nanopore Sequencing in Undergraduate Education: Insights from Arachnid-based Pilot Studies in Classroom, Lab, and Field Settings	<b>Liam Hemingway</b> <i>Mathematical Sciences</i> Graph Partitioning Applied to Congressional Redistricting and Gerrymandering
<b>9:30-9:45</b>	<b>Phobe Gediman</b> <i>English</i> Out of the Wallpaper and on to the Bestseller List: How the Female Gothic Evolved into the Psychological Thriller		<b>Billi Kozak</b> <i>Biology</i> The Effect of <i>Junonia coenia</i> Densovirus on the Baltimore Checkerspot Butterfly	<b>Enumaah Dadzie</b> <i>Political Science</i> Colonial Legacy: Concentration on Ghana and Ivory Coast
<b>9:45-10:00</b>	<b>Alyssa Meneo</b> <i>English</i> Creating the Nineteenth Century in the Modern World: The Stories of Benjamin and Loretta		<b>Abigail Fletcher</b> <i>Biology</i> The Effect of Forest Type on Decomposition of Organic Matter in Aqueous and Terrestrial Environments	<b>Kevana Simpson</b> <i>Communication</i> The Struggle for Acceptance in a Society Against Black Women
<b>10:00-10:15</b>	<b>Melody Cabarroguis</b> <i>English</i> Of Carrots and Turnips: School Rebellion in Nineteenth-Century Literature		<b>Allison Sawtelle</b> <i>Theatre</i> Upcycling: An Approach to Sustainable Fashion	<b>Carly Alston</b> <i>History</i> The Murder of Emmett Till: The Influence of the Jackson Advocate and Other Newspapers
<b>10:15 – 10:30</b>			<b>Victoria Dennis</b> <i>Computer Science</i> Waste Classification System Using Image Processing and Convolutional Neural Networks	

Detailed Schedule of Oral Presentations/Panels/Performances

Session B: 10:30 – 12:00					
	<u>MR 107</u>	<u>MR 113</u>	<u>MR 217</u>	<u>MR 219</u>	<u>Student Center Theatre</u>
<i>Moderator</i>	<i>Ken McNeil</i>	<i>Nahyun Ob</i>	<i>Fatma Pakdil</i>	<i>Kristen Morgan</i>	
10:30-10:45			<b>Brett Weldy</b> <i>Communication</i> Sports Media and the Effect on Athletes' Decisions	<b>Rebecca May Ristow</b> <i>Theatre</i> Puppetry as Parody: Examination of The Muppets as Remediation	
10:45-11:00	<b>Georgia Chesworth</b> <i>English</i> The Spirit of a Book in Film: Comparing The Lord of the Rings and The Hobbit Films as Faithful Adaptations	<b>Ava Sanchez, Mackenzie Teper, Jared Rusconi, Maxfield Hand, Axl Blumes, Cody Worsman, Dylan Bessette, Evan Baptista, Jesse Jordan, Raphael Joseph, Juliana Pasakarnis, Kush Patel, Grady Kelly, Leah Coelho, Jillian Martin, Sara Marrufo, Mitchell Rampino, Jason Wang, Liam Ardito, Zion Walker, Adriel Espada, Jacob Ricketts, Nathan Cerasale, Luis Sanchez, Megan Pardee, Seth Thomas, Teonjai Jackson-Beaufort, Madison Gartsu, Celina Menzies, Erin Dwyer, Alejandra Martinez Soto</b>  <i>Business Administration</i>	<b>Sabrina Scaccia</b> <i>Communication</i> The Effects of Social Media on Students' Academic Performance	<b>Ash Fischer</b> <i>Theatre &amp; Performance Media</i> The Nether Projection Design	
11:00-11:15	<b>Frank Corbett</b> <i>English</i> The Influence of Shelob: Modern and Mythological Foundations of Tolkien's Horror		<b>Kaylee Armida</b> <i>Communication</i> The Effect of Social Media on Athletes	<b>Kane Waggoner</b> <i>Communication</i> The Applicability of Information-Flow Theory in the Modern Digital Age Through the Lens of Censorship	<b>Alexis Nimetz, Ceili Roberts, Johanna Lasbury, Fernando Jeromino, Jesse Mayreis, and Zachary Doty</b>  <i>Communication</i>
11:15-11:30	<b>Paige Stegina</b> <i>English</i> You Have Grown, Halfling: 'Scouring of the Shire' in Tolkien and Jackson's Return of the King		<b>Mitchell Bagcal, Donan Meyer, Chris Pergoia, Jenna Serrantino</b> <i>Communication</i> Marketing Campaign for Legends Tavern	<b>Julia Carso</b> <i>Communication</i> Nostalgia as a Social Media Marketing Tactic: A Brief Scope of Literature	ETV Field Television News & ETVSports: Live Studio & Live Field Television Production at Eastern
11:30-11:45	<b>Victoria Dennis</b> <i>English</i> The Collected Poems of Middle Earth		Business Ventures "Shark Tank": Cannabis Entrepreneurship and More	<b>Jacqueline Navickas</b> <i>Business Administration</i> Jacqueline's Be Unique Business Plan	<b>Cecylia Szwajger, Marcus Prezioso, Nancy Scanlon, Ty Collige</b> <i>Communication</i> IVP: Industrial Veteran Production
11:45-12:00					

**Detailed Schedule of Oral Presentations/Panels/Performances**

Session C: 1:00 – 2:30						
	<u>MR 107</u>	<u>MR 113</u>	<u>MR 115</u>	<u>MR 217</u>	<u>MR 219</u>	<u>Student Center Theatre</u>
<i>Moderator</i>	<i>Daniel Donaghy</i>	<i>Anya Sokolovskaya</i>	<i>Ricardo Perez</i>	<i>Michelle Michael</i>	<i>Caitlin Vasquez-O'Brien</i>	<i>Emily Riggs</i>
1:00-1:15	<p align="center"> <b>Lilia Burdo, Sara Green, Samuel Perez-Lopez</b>   <i>English</i>                       Poetry Writing and Social Justice: Eastern Poets Read from Their Capstone Projects                 </p>	<p align="center"> <b>Millie Carlson, Evan Carney, Ash Fischer, Jillian Martin, Eric Roesler, Ashlynn Sminkey, Kane Waggoner, Tyler Warren</b>   <i>Theatre &amp; Performance Media</i>                       Eastern's Kennedy Center American College Theatre Festival Awardees                 </p>	<p align="center"> <b>Sarah Theriault</b>  <i>Sociology</i>                      Disabled Is Not A Dirty Word                 </p>	<p align="center"> <b>Christopher Pergola</b>  <i>Communication</i>                      Media &amp; Human Development                 </p>	<p align="center"> <b>Cailey Fay</b>  <i>Psychological Science</i>                      Putting Self-Compassion Into Practice: Parental Gate Opening as a Moderator of Parental Self-Compassion and Sibling Positivity                 </p>	<p align="center"> <b>Sarah Burkart</b>  <i>Performing Arts - Music</i>                      War in the Galaxy                 </p> <p align="center"> <b>Nicholas Ford, Kyle McElroy</b>  <i>Performing Arts - Music</i>                      Farewell by Sergio and Odair Assad                 </p> <p align="center"> <b>Donald DeForge, Nick Ford, Evan Gianfriddo, Grace Michalowski, Jason Skoog, Evan Wood, Jacob Wurst</b>  <i>Performing Arts - Music</i>                      The 3 O'clock Jazz Band                 </p> <p align="center"> <b>Aidan Reiss</b>  <i>Performing Arts - Music</i>                      J.S. Bach - Prelude &amp; Fugue in C Minor, BWV 847                 </p> <p align="center"> <b>Chris Gregor, Mya Millbauer, Sierra McElroy, Grace Michalowski, Adam Benway, Manuel De La Flor</b>  <i>Performing Arts-Music</i>                      A Micro-Recital of Classical and Musical Theater Repertoire for Voice &amp; Piano                 </p>
1:15-1:30			<p align="center"> <b>Caroline Sechrist</b>  <i>Women and Gender Studies</i>                      EYE PATCH: Debugging Piracy through the Lens of Disability Justice                 </p>	<p align="center"> <b>Isabelle Horchos</b>  <i>Communication</i>                      Social Media's Effect on Female Body Image                 </p>	<p align="center"> <b>Ori Busel</b>  <i>Psychological Science</i>                      Relations between Parent and Child Self-Regulation and Observed Child Fear                 </p>	
1:30-1:45			<p align="center"> <b>Cici Sechrist</b>  <i>Women and Gender Studies</i>                      Expanding Disability: Challenging Disability Theory in Rosemarie Garland-Thompson's essay "Integrating Disability, Transforming Feminist Theory"                 </p>	<p align="center"> <b>Liv Skerry</b>  <i>Theatre &amp; Performance Media</i>                      The Right Way to Direct                 </p>	<p align="center"> <b>Kayden Louzada</b>  <i>Psychological Science</i>                      Parental Gender Role Rigidity and Child Depression: The Moderating Role of Child Self-Perception and Inhibitory Control                 </p>	
1:45-2:00			<p align="center"> <b>Julianne Martin</b>  <i>English</i>                      A World Not Made for Me: A Memoir of Disability Justice                 </p>	<p align="center"> <b>Emily Selbie</b>  <i>Communication</i>                      Effects of Internet Usage on Child Development                 </p>	<p align="center"> <b>Frida Nieto</b>  <i>Sociology</i>                      Disadvantages of the Children and Families of Under-documented Immigrants: How Do Current Restrictive Immigration Policies Effect U.S. Citizens?                 </p>	
2:00-2:15			<p align="center"> <b>Waverly Dombkowski</b>  <i>English</i>                      Building Empathy: First-Person Narrators and Neurodivergence                 </p>	<p align="center"> <b>Noelle Ciccarelli</b>  <i>Psychological Science</i>                      Individual and Group Influences on Social Loafing Tendencies                 </p>	<p align="center"> <b>Gianna DeSante</b>  <i>Psychological Science</i>                      Associations Between Parental Warmth, Control, and Rejection: Interactions of Child Sex and Sibling Birth Order                 </p>	
2:15 - 2:30						

**Detailed Schedule of Oral Presentations/Panels/Performances**

Session D: 2:30 – 4:00						
	<u>MR 107</u>	<u>MR 113</u>	<u>MR 115</u>	<u>MR 217</u>	<u>MR 219</u>	<u>Student Center Theatre</u>
<i>Moderator</i>	<i>Daniel Donaghy</i>	<i>Mihyun Kang</i>	<i>Suki Grandhi</i>	<i>Chantal Larose</i>	<i>Nicolas Simon</i>	<i>Steve Ferruci</i>
2:30-2:45	<p align="center"> <b>Juana Santana, Havi Brouillard, Adeba Resa, Dana Arroyo Infante, Christeena Aaron</b>   <i>English</i>                      Eastern Student Poets                      Share Their Work                 </p>	<b>Amelia Snyder, Riley McConnell, Sarah Stephens, Jack Demers</b> <i>Communication</i> The Reestablishment of Bagel One Business' Social Media Presence	<b>Emily Simmons, Rebecca La, Brittany Lohman</b> <i>Health Sciences</i> Burnout Blues: The Effects of Staffing Shortages on Healthcare Staff	<b>Abigail Beauregard</b> <i>Art &amp; Art History</i> The Arnold Prince Collection: Shedding Light on a Hidden Community Partner	<b>Sister Alexandria Smith</b> <i>Mathematical Sciences</i> The Matrix and Ancient China	<b>Thomas Fisher</b> <i>New Media Studies</i> The Devil in the Delta
2:45-3:00		<b>Andrea Kathe, Julia Carso, Matthew Lynch, Olivia Pendl</b> <i>Communication</i> Expanding Demographics: From A Cupcake for Later to College Students	<b>Dayshalee Torres, Jaime Centrone, Nancy Nguyen</b> <i>Health Sciences</i> Beyond the Hype: Attitudes and Perceptions of Long- Term Marijuana Users	<b>Liam Hemingway</b> <i>Mathematical Sciences</i> Using Ultraviolet Light to Slow the Spread of White Noise Syndrome	<b>Matthew Duval</b> <i>History</i> Thomas Perkins, The Boston Opium Trade, and Their Influence Upon Our Contemporary World	<b>Jack Espinoza</b> <i>New Media Studies</i> The Evolving Self: A Video Memoir
3:00-3:15		<b>Alex Turner</b> <i>Communication</i> Color Theory in Advertising: How Social Media Brands Use Color Theory to Attract Consumers	<b>Tianna Romo Kurek, Madeline Brown</b> <i>Anthropology, Sociology, Criminology, Social Work</i> COVID-19 and the Death Industry	<b>Kevin Flaherty</b> <i>Mathematical Sciences</i> Data Analysis of Movie Preferences	<b>Frank Corbett</b> <i>Political Science, Philosophy, Geography</i> Japanese Philosophy and the Perception of Femininity	<b>Melody LaCombe , Seth Richards</b> <i>Theatre and PerformanceMedia</i> Project Genesis
3:15-3:30		<b>Autumn Szucs, Natalie Lorenti, Laura Martenson, Emily Jeamel</b> <i>Communication</i> Creating Awareness for a Local Business - Bliss Boutique Advertising Campaign	<b>Carolyn Crespi, Taylor Knox, Shannon Gellner, Marie-France Raymond</b> <i>Health Sciences</i> LGBTQIA+ Healthcare: Issues and Concerns	<b>Elizabeth Bartoshevich</b> <i>History</i> Quantifying Early Modern News: NLP and Narcissus Luttrell's Brief Historical Relation of State Affairs 1678-1714	<b>McKayla Lester, Michaela Belden</b> <i>Anthropology</i> Indigenous Archeology in New England	<p align="center"> <b>GODDARD HALL RM 123</b>   <b>Mariely Garcia, Allison Sawtelle</b>  <i>Theatre &amp; Performance Media and New Media Studies</i>                      Human + Nature: Motion Capture                 </p>
3:30-3:45		<b>Mark DiMauro</b> <i>Communication</i> Formula 1's Growth in America by Utilizing Media	<b>Emma Sullivan</b> <i>English</i> The Big 'C' Word—And Everything That Comes With It	<b>Matthew Kiernan</b> <i>Economics</i> Measuring the Economic Effect of Crumbling Foundations due to Pyrrhotite in Northeastern Connecticut	<b>Piper Kozar-Meyer</b> <i>Art &amp; Art History</i> Nefertiti: The Power and Divinity of Egypt's Queen	
3:45 – 4:00		<b>Shane Haggerty</b> <i>Business Administration</i> The Boom of AI and its Impact on the IT Sector		<b>Katherine Escalante, Christian Deras-Rodriguez</b> <i>Political Science</i> High Speed Rail in the U.S.		

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## Artwork Abstracts

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### **Ten: Dream in a Dream**

Grace Blanchard

*Faculty Mentor:* Soojin Kim

This is the dynamic poster for an imagined tour around Asia by the artist Ten. This poster features his song, "Dream in a Dream". The poster references the aesthetics of his music video, with a dream-like scene of flowers in blacks, pinks, and blues.

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### **Still Life Study**

Michelle Chenail

*Faculty Mentor:* Lora Lee

During this photo study assignment, I used Clip Studio Paint to replicate the appearance of traditional oil painting, which is a medium that I do not have prior experience with. As a commuter and working student, digital drawing software is both an accessible and versatile medium that can be used for creating art.

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### **The Layers of Leah**

Leah Coelho

*Faculty Mentor:* Lora Lee

At the beginning of this academic year, I was overwhelmed with feelings of betrayal, which numbed me for a while. By suppressing my anger, I would cry more than usual, to the point where I questioned who I was and who I wanted to become. After rebuilding confidence in my work ethic, friendships, and the way I carry myself, I no longer hold onto that anger. It started a fire within me, which helped inspire me to create these designs. Now, I am happier than ever, following a path I am proud of, knowing that it took strength and forgiveness of myself to get here.

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### **Moonscape**

Maria Fernanda Reategui Davila

*Faculty Mentor:* Robert Greene



The meaning of the moonscape is to see beyond the world's future. People don't realize how much pollution affects us and our environment, and it's a crisis we should be worried about. My sculpture represents the world's future; if we as citizens we are not aware of the continued wildfire, overconsumption, CO2 emissions, and more that happens in the ecosystem and significantly contribute to climate change. Is this what we want for our future? Just a simple flame in a perfect environment changed the situation and the atmosphere like my sculpture. Although the idea at the beginning was a simple landscape on a moon where it was a "perfect forest and sky," it ended up set on fire by a flame that changed the perspective of this surreal world. It means caring more about our environment and thinking about the future and how we can make a difference.

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### **The Sickness**

Denisse Díaz-Sánchez

*Faculty Mentor:* Tao Chen

"The Sickness", a typographic poster design, focuses on raising the public's attention to the problems and negative effects of the American healthcare system. The research that I conducted was concentrated on real-life experiences of those who suffered from the negative effects of the American healthcare system. Through research, I collected countless recollections, including the disheartening case of Susan Finley who lost her job at a company for taking too many sick days. She also lost her health insurance while struggling to recover from pneumonia. Finley passed away from flu-like symptoms after avoiding a doctor's visit she simply could not afford. Stories like these were incorporated into my design, along with dark tones and torn newspaper effects to express the impact they hold. It is critical to recognize how an unprecedented ailment can put a family into incredible disparity. Without universal health care, the US health system forces Americans to feel strongly apprehensive of even calling for an ambulance. The American healthcare system takes advantage of how helpless one can feel when they are denied help in times of need, merely because they cannot meet the price tag. The typography in the design was shaped into a medical syringe, with all the words included correlating to the theme of both America and general health topics. The colors chosen for the type are red, white, and blue, to symbolize the overarching subject of the United States. There is a large dollar sign in the negative space of the syringe overshadowing the other words, to conceptually represent a debate over who the system benefits and helps. I hope that my design can raise the public's attention. We need to break the silent taboo shrouding this problem and push for the system to work for the people, not big pharma or private insurance companies.

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### **Portraiture Study**

Ben Giammattei

*Faculty Mentor:* Soojin Kim

Portraiture study using mainly vine and compressed charcoal with the addition of white chalk pencils/pastels. It is a portrait but mainly focused on the hair of subject and developing ways to showcase it. While also using elements of art to make a proportional and realistic portrait.

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## **Chainsaw Man**

Ben Giammattei

*Faculty Mentor:* Soojin Kim

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## **Blush Skin Care**

Nicole Gorski

*Faculty Mentor:* Soojin Kim

I created the branding for Blush Skin Care for an independent study on package design. I designed a series of facial serums with a theme of all natural ingredients. I wanted the product to have a clean and unique design that one might not regularly see on shelves.

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## **How to be a Morning Person**

Olivia Hermonot

*Faculty Mentor:* Soojin Kim

This infographic is based off of Adrienne Santos-Lonhurst's article, "How to Train Yourself to Wake Up on Time in the Morning". I took the information given in the article and made it easier for the viewer to digest by organizing information in a grid system and pairing it with fun and eye-catching illustrations.

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## **The True Cost of Fashion**

Olivia Hermonot

*Faculty Mentor:* Soojin Kim

Using information from, "The Global Environmental Injustice of Fast Fashion," by Rachel Bick, Erika Halsey, and Christine C. Ekenga I created this animated infographic educating viewers on the dangers of fast fashion.

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## **Topsy Turvy**

Allison Keeling

*Faculty Mentor:* Robert Greene

Using only a 2x4, I created organic movement using geometric shapes (cubes) and created the illusion that they are being suspended in air and could fall over at any time.

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## **Remembrance**

Allison Keeling

*Faculty Mentor:* Afarin Rahmanifar

This piece portrays a young woman reflecting on her past, in the setting of her old childhood home.

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## **How the Turtle got Its Shell**

Shannon Kennedy

*Faculty Mentor:* Soojin Kim

This piece was made for ART 213, Creating Information Graphics. I found an article about a recent find in turtle evolution, I thought it was interesting, and decided to share that information visually in a style reminiscent of a poster that might be found in a classroom or image in a textbook.

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## **Cafe Luna Bottled Coffee**

Shannon Kennedy

*Faculty Mentor:* Soojin Kim

This is a mock-up of a package design for a bottled coffee brand. It was done for Art 330 as a concept for a packaging for a liquid product. I centered the design around the concept of a Luna Moth and gave the overall design a look lightly inspired by the Art Nouveau movement.

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## **Gold Foxes Album Cover**

Shannon Kennedy

*Faculty Mentor:* Soojin Kim

This was a Project for Graphic Design 1. This is an album cover for a folk band called Gold Foxes, with the album itself focused on the theme of time and key moments that heavily affected the band. Done in Adobe Illustrator.

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## **Explosion of Feathers**

Anastasia Korzhoff

*Faculty Mentor:* Lora Lee

I was walking on campus one morning and stumbled upon a bunch of blue jay feathers. It was as if a blue jay had exploded, or something happened to it. I felt bad for the bird, and the feathers were so beautiful. So, I collected them and wanted to bring the bird back to life. I painted a blue jay using acrylic paint and used the feathers I found to add to the painting.

## **Female Torso**

Cecilia LeBlanc

*Faculty Mentor:* Robert Greene

This piece was created through a want to explore the female anatomy but as I was making it, it became much more. This piece started as an oak log that was chain sawed down and using a subtractive process, was grinded down to the form it now is. After the countless hours of grinding away at this piece, I started to notice the large cracks and the slight unusual marks that the grinder would make; what would be seen as imperfections that actually made this piece more itself. With that I continued with the slight markings along the torso of this oak built female and, in the end, what started as an exploratory project of anatomy became an embracement of imperfectness.

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## **Guardian of the Ocean**

Melissa Liebla

*Faculty Mentor:* Robert Greene

As an assignment for my wood sculpture class, this breaching whale tail was carved out of a block of bass wood using hand chisels, an electric sander and rotary tools. The inspiration sprung from childhood memories as a New Englander where the beach and ocean were privy parts of my younger summers. Swimming, boat rides and spotting whales along the coasts of Rhode Island and Maine are among the most memorable to me. I carved this whale tail as not only a nod to these cherished past times, but specifically as a token of appreciation to my parents for their guidance through the deep and rocky waters that is growing up. Much like a whale is the natural protector and guardian of the ocean, my parents have done the same for my brother and I with unconditional love.

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## **Girl with the Head Wrap**

Sofia Lomba

*Faculty Mentor:* Afarin Rahmanifar

This painting was a take on Vermeer's "Girl with the Pearl Earring". I wanted to take his piece and tie it to my culture based in Africa.

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## **Tree of Life**

Sofia Lomba

*Faculty Mentor:* Afarin Rahmanifar

This piece was project done in Intermediate Drawing, spring 2022. We were told draw hands holding the world as we perceive it. To me the world is nature and I chose to depict this with the tree of life.

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## **Everlasting**

Kara Mahoney

*Faculty Mentor:* Robert Greene

A sculpture that serves as a visual autobiography about girlhood and learning how to hurt and be hurt. The purpose of a punching bag is to be hurt. It's meant to bear the weight, to take the brunt of the pain. Pain is an integral part of Everlasting, in the process of both experiencing it and creating it. For the viewer, the collages and written phrases inspire the viewer to think of their own experiences, and if they do try to hit it and make it bear the weight for them, there are four rows of broken mirrors to stop them and reflect back their own shattered image. For the creator, spilling out my heart like this was an act of catharsis, however exhausting and difficult to deal with. The other motivation behind using a punching bag as a base is the fact that it's a symbol of masculinity, and this work is unapologetically and undeniably about girlhood. It's a scrapbook of collaged photos covered in rhinestones wrapped in crochet. Even the weights holding down the stand have a river of rhinestones dripping over them. Femininity crawls over this symbol of violence and strength, reclaiming and corrupting in equal measure.

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## **Tusks and Horns**

Kevin Mendoza

*Faculty Mentor:* Soojin Kim

The reason for the infographic is to provide knowledge on the decreasing number of elephants and rhinos within the African region due to increase in number of poachers and other factors, the cause of the poaching and how it overall affects the environment little by little.

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## **Nature's Spiral**

Alexa Michalski

*Faculty Mentor:* Afarin Rahmanifar

For this project I wanted to make an appreciation of nature and show there is beauty in all areas of nature's cycle. I chose elements of all nature's aspects including the good and bad, bright and dark, airy and wet. They were collaged, put into a collaged spiral, and then painted.

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## **Untitled**

Kate Moss

*Faculty Mentor:* Afarin Rahmanifar

This project was based on a collage and different mediums were used to create that affect.

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## **Revital**

Jessica Ng

*Faculty Mentor:* Afarin Rahmanifar

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## **Brightness of the Ocean**

Jessica Ng

*Faculty Mentor:* Afarin Rahmanifar

A surrealist painting that combines a bright building scene with a midnight ocean.

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## **Geometric Aura**

Xari Perez

*Faculty Mentor:* Qimin Liu

This piece was created using the ideas of color theory with a specific focus on brush stroke. It is inspired by the spiritual belief of auras. The purpose of this piece is to demonstrate the complexity of the distribution of energy that surrounds living organisms.

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## **Solemnity**

Jillian Rappi

*Faculty Mentor:* Qimin Liu

Digital portrait drawing of Native American father.

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## **2"x4" Project**

Mabel Saccomanno

*Faculty Mentor:* Robert Greene

Constructed from a single 2"x4"x4' piece of lumber, this project aims to return an artificially processed piece of wood back to an organic form. The wool, covering the carved wooden form beneath, contributes a zoomorphic quality, further solidifying the lumber's connection to its natural origins.

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## **A Moment of Drifting**

Mabel Saccomanno

*Faculty Mentor:* Afarin Rahmanifar

A scene from the end of a long day, the image captures a moment of drifting off to sleep.

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## Oral Presentation Abstracts

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### **The Murder of Emmett Till: The Influence of the Jackson Advocate and Other Newspapers**

Carly Alston

(History)

*Faculty Mentor:* Scott Moore

The modern Civil Rights Movement was a pivotal step towards racial equality in the United States. Historians provide conflicting ideas about what event they believe to be the catalyst for the movement. Many point to the Montgomery Bus Boycott as the major propelling force, but the catalyst for the movement can be traced back to an event that occurred months before this. On August 28th, 1955, 14-year-old African American Emmett Louis Till was brutally murdered after being accused of whistling at a white woman at a local store in Money, Mississippi. Starting from the day Emmett Till's misconfigured body was found floating in the Tallahatchie river, newspapers were eager to report on the incident. The story of the murder along with images of Emmett Till's body circulated the Mississippi Press and were transformed into a symbol of action. A predominantly black newspaper, The Jackson Advocate, published numerous articles about the Emmett Till murder. The Jackson Advocate and many other newspapers throughout the nation played a significant role in constructing this event into the catalytic element of the Civil Rights Movement.

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### **The Effect of Social Media on Athletes**

Kaylee Armida

(Communication)

*Faculty Mentor:* Michelle Michael

Social media has become a standard in modern-day society, with billions of people around the world using these platforms to connect with others, share information, and stay up-to-date on the latest news and trends. While social media is often criticized for its negative impact on mental health and well-being, it can also have a positive impact on athletes of all ages. Social media has the potential to positively impact athletes in several ways. It allows athletes to connect with fans and followers, building a strong fan base and increasing their visibility in the sports world. Social media also provides a platform for athletes to share their personal stories and experiences, inspiring others and creating a sense of community. Finally, social media can be a powerful tool for athletes to network with coaches, scouts, and other industry professionals, opening up new opportunities for career advancement. Overall, while social media may have its drawbacks, it is clear that it can have a positive impact on athletes of all ages. Connecting with others, sharing stories and experiences, and building careers, are all opportunities athletes have by taking advantage of everything that social media has to offer. From there, athletes are able to achieve their goals and make a lasting impact in their chosen sports and on their engaged community.

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## **Marketing Campaign for Legends Tavern**

Mitchell Bagcal, Donan Meyer, Chris Pergola, and Jenna Serrantino  
(Communication)

*Faculty Mentor:* Mihyun Kang

Legends Tavern is a local bar in Willimantic Connecticut. They serve a bunch of drinks and have a good food menu. They have the typical bar food such as burgers, wings, fries, and tater tots. They have good entertainment with things like a jukebox and multiple types of games such as pool, darts, dome hockey, and Jenga. They have a nice outside spot with turf, fireplaces, chairs, and stools to sit on. Legends has been struggling to be a top competitor with other Willimantic bars. As a student-orientated marketing agency in an IMC class at Eastern, working on a marketing campaign. Providing a social media campaign that will help Legends get more attention and hopefully more customers is the main goal. By using Instagram, Facebook, as well as TikTok, Premiere can bring a lot of content to people's feeds and bring more exposure to Legends as a brand. The target audience decided for Legends Tavern should be college students because we are a few miles from Eastern Connecticut State University. Our second target audience would be the people in the Willimantic community. We want locals and college students to have a nice spot where they can come for a drink and a good bite to eat. The promotional mix for the Premiere Agency Campaign is to use social media such as Facebook, Instagram, and TikTok specifically to get the message out about Legends Tavern. By creating an up-to-date and engaging social media presence, Premiere Agency hopes that this will increase business at Legends Tavern. Flyers will also be posted on Eastern's campus and around Willimantic to also spread the word about Legends Tavern. Premiere Agencies' media mix will consist of 80% social media and 20% flyers. The budget will fall between \$15 and \$70. The Premiere Agency feels it is important for the Willimantic community to support a local, family-owned business. There have been a few restaurants in that same building with a bad reputation, with the new owners and renovated inside, it should bring in a good crowd.

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## **Quantifying Early Modern News: NLP and Narcissus Luttrell's Brief Historical Relation of State Affairs 1678-1714**

Elizabeth Bartoshevich  
(History)

*Faculty Mentor:* Jamel Ostwald

In this Honors Thesis, we used Natural Language Processing (NLP) techniques to analyze Narcissus Luttrell's manuscript "A Brief Historical Relation of State Affairs 1678-1714." This diary-like manuscript catalogues news that Luttrell encountered on a weekly basis, totaling almost 40,000 entries. Attempting to reconstruct Luttrell's news network, we identify the most frequent named entities (i.e. people, organizations, and places), and map them with corresponding information, such as the source, year and frequency of their appearance within the manuscript. In doing so, we gain insight into the flow of news between different regions and the connections between various groups in Early Modern Europe, through the eyes and ears of a single person. This project incorporates computer science into a traditional historical approach, combining statistics and data visualization with historical context, in order to understand the document in a way not feasible through traditional research methods.

## **The Arnold Prince Collection: Shedding Light on a Hidden Community Partner**

Abigail Beauregard

(Art, Art History)

*Faculty Mentor:* Maeve Doyle

We're currently going through what computer and data scientists are calling a "digital dark age", where media and history is disappearing at an accelerated rate. This is because we either don't think to or are unable to back up digital data and media to keep it safe. The safety of information is more important now as we are living in an increasingly digital world. The Arnold Prince collection is my first foray into archives and it's been a highly gratifying one. More so, it brought to my attention how someone can fall under our radar. Arnold Prince was an active contributor in whichever community he was a part of, yet so few people know his name. Everyone I've talked to about Prince had seen one of his art pieces but couldn't put his name to it. Today I will discuss the processing and research parts of my experience and share a preview of my LibGuide for the Arnold Prince Collection. Archiving is an act of remembering, a love language all its own. By making his archive digital we can remember Arnold Prince as he was, an artist, writer, professor and importantly, a helper, so he doesn't become lost to time.

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## **Relations between Parent and Child Self-Regulation and Observed Child Fear**

Ori Busel

(Psychological Science)

*Faculty Mentor:* Caitlin Vasquez-O'Brien

Considerable research supports the intergenerational transmission of temperament (Bridgett et al., 2015), focusing on self-regulation. We hypothesized that parental inhibition would predict child fear, and that this would be moderated by parent and child self-regulation. Using a laboratory manipulation of fear in a sample of 290 children, neither parental inhibition nor parental self-regulation related to child fear. Children who had better self-regulation displayed lower levels of fear. These findings challenge the intergenerational transmission model.

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## **Nostalgia as a Social Media Marketing Tactic: A Brief Scope of Literature**

Julia Carso

(Communication)

*Faculty Mentor:* Michelle Michael

In recent years, social media has spread various types of nostalgic content to its audiences. However, existing research routinely emphasizes the positive aspects of nostalgia and overlooks the potential consequences. The current research incorporates a review of literature regarding nostalgia's role in social media marketing. Nostalgia overall cultivates positive effects that are merely temporary and hinders the ability for original content ideas to be fully conceptualized. Therefore, social media marketing must incorporate a sociocultural perspective to explore the various factors that make

consumers gravitate toward nostalgia. Hopefully this model can be used to shift the content that social media marketers prioritize in future endeavors.

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### **Individual and Group Influences on Social Loafing Tendencies**

Noelle Ciccarelli  
(Psychological Science)  
*Faculty Mentor:* Madeleine Fugere

Prior research has identified the potential occurrence of social loafing in online groups. The aim of this study was to look at the association between the individual characteristics of moral meaningfulness and gender, and the group factor of group size, and their link to the social loafing tendencies of virtual groups. Previous research has linked group factors like group size, identifiability, and task difficulty to social loafing tendencies; however, little research has been done to explore the individual factors that contribute to social loafing. In this study, we used a correlational design to assess the social loafing behaviors of 75 college students at a public liberal arts institution. Participants completed an online brainstorming task in groups that ranged from one participant to thirteen participants, where they were responsible for producing as many sustainable improvements to their college campus as possible within the given time frame and were asked to share these ideas with their group. Consistent with previous research and our hypotheses, we found evidence for the occurrence of social loafing in groups containing more than four participants where those in larger groups generated fewer ideas compared to those in smaller groups.

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### **Japanese Philosophy and the Perception of Femininity**

Frank Corbett  
(Political Science, Philosophy, and Geography)  
*Faculty Mentor:* Ana Laura Funes

The perception of femininity in Asian Philosophy is often intertwined with concepts of impurity, submission, and death. These cultural attitudes have been cultivated for centuries and provide insight to many female plights throughout Japan's history. This presentation investigates aspects of Asian Philosophy as it pertains to the historical treatment and perception of women in Japan, with a focus on topics such as the Shinto creation myth, the Confucian standard for wives and mothers, and the Buddhist "Blood Bowl Sutra". These concepts will be analyzed and presented alongside examples from Japanese history, including the exclusion of women for fear of their inherent impurity, historical attitudes surrounding childbirth and the womb, and modern remnants of these beliefs in recent memory.

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### **LGBTQIA+ Healthcare: Issues and Concerns**

Carolyn Crespi, Taylor Knox, Shannon Gellner, and Marie-France Raymond  
(Health Sciences)  
*Faculty Mentor:* Mary Kenny

The Lesbian, Gay, Bisexual, Transgender, Questioning/ Queer (LGBTQIA+) community has faced many challenges regarding their healthcare, from provider bias, to limited or no treatment options, to laws banning care. Our research explored this issue by conducting in-depth interviews with 13 participants, aged 19-23, who identify as LGBTQIA+. We focused our inquiry on situations in which they faced bias, prejudice or discrimination by healthcare providers and solicited recommendations as to how to mitigate or minimize bias. Our presentation will discuss participant concerns about the lack of understanding or misinformation about LGBTQIA+ healthcare issues, specifically in terms of sexual and psycho-social health illnesses.

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### **Colonial Legacy: Concentration on Ghana and Ivory Coast**

Enumaah Dadzie

(Political Science)

*Faculty Mentor:* Courtney Broschius

In this presentation, I argue that the expectation for African nations, including Ghana and Ivory Coast, to conform to Western standards of "modernization" is deeply rooted in colonialism and path dependency. The criteria used to measure modernization are based on Western values and perspectives, which fail to recognize the unique cultural, social, and economic realities of African nations due to the legacy of colonialism which has left a lasting impact on African nations. I will explore the negative consequences of imposing Western values on African nations and present an alternative approach to development that recognizes and respects the diversity of cultures and perspectives. Ultimately, the goal of this presentation is to encourage a more equitable and inclusive approach to development that allows African nations to chart their own path towards progress and prosperity.

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### **Waste Classification System Using Image Processing and Convolutional Neural**

Victoria Dennis

(Computer Science)

*Faculty Mentor:* Garrett Dancik

The growing problem of plastic waste in our environment poses a significant challenge for sustainability efforts around the world. Manual sorting of plastic waste is a costly and time-consuming process that could benefit from automation. We explore this by considering an image recognition system that uses convolutional neural networks (CNN) to recognize bottles, using a pre-trained CNN. This system is a first step in a larger system that has the potential to streamline plastic recycling processes, reduce manual labor costs, and improve recycling efficiency. Overall, this research highlights the potential of deep learning methods for environmental sustainability.

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## **Associations Between Parental Warmth, Control, and Rejection: Interactions of Child Sex and Sibling Birth Order**

Gianna DeSante

(Psychological Science)

*Faculty Mentor:* Caitlin Vasquez-O'Brien

This study examined the relationships between parenting style, both observed and self-reported, and symptoms of depression in young children. The moderating role of sibling order and child sex was also examined. A sample of 145 families, consisting of two children and a primary caregiver, were recruited from the Jacksonville, IL area. Data were collected from families at two different time points. At Time 1, parenting style was measured via self-report on the Child Rearing Practices Report (CRPR; Block, 1965) and observationally using the Gameboy task (originally called the View Master Task; Brody et al., 1992). At Time 1, child depression was measured via self-report using Center for Epidemiological Studies Depression Scale for Children (CES-DC; Weissman et al., 1980) and by primary caregiver report on the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). At Time 2, parenting was measured using self-report on the Parental Acceptance-Rejection Questionnaire (PARQ; Rohner & Khaleque, 2005). Child depression was measured using primary caregiver report only using the SDQ at Time 2. Hypothesis 1 regarding the main effects of warmth, control, and rejection was partially supported. No support was found for Hypothesis 2, predicting the interaction effects of warmth and control on child depression. Hypothesis 3, predicting that parenting dimensions would be more impactful for females' depression was not supported. Hypothesis 4 which stated that differential parenting would impact depression symptoms for one child or the other was partially supported. Results from this study could have implications for better parenting practices in the future.

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## **Formula 1's Growth in America by Utilizing Media**

Mark DiMauro

(Communication)

*Faculty Mentor:* Michelle Michael

Formula One through the past few years in the United States of America has had a raising popularity. The sport has used multiple different means and channels to grab the attention of old fans and bring in new fans, with the biggest tool they used being communication methods. While the actual thought process and blueprint for how Formula One did this is locked behind closed doors, and actual data from this growth is too new and current to be included and studied, looking at Formula E, NASCAR, and other general sports has helped formulate an idea for how the sport is slowly growing to be one of the most followed in America. While this paper mixes with both methods, this is mainly a Quantitative Method paper, with different statistics from within motorsports and sports in general on fanbases, social media appearances, and more. The research provides a possible road Formula One went down in looking at sport fans and racing fans in the United States, and how they differ from other fans in their worldwide fanbase. This different strategy from the rest of the world became a success on sucking in fans to enjoy the sport.

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## **Building Empathy: First-Person Narrators and Neurodivergence**

Waverly Dombkowski

(English)

*Faculty Mentor:* Miriam Chirico

Literature involving first-person narration allows people to follow the cognitive processes of another person. Unlike third-person narration, which is similar to watching a character from the outside such as how we might view a person in a movie or a play, first-person narration allows for the sense of immersion in another's thought process. As I analyze three first-person literary works: "curious incident of the dog in the night-time," "Ginny Moon," and "A Room Called Earth," I argue that readers gain understanding of neurodivergent individuals by entering the thoughts, emotions, and reactions of these narrators. Although these three books do not serve as diagnostic guides, their arguably neurodivergent narrators give readers intimate access into understanding their cognitive processes, as they share patterns of thinking and understanding that may vary significantly from typical readers. As a result, readers are able to create deeper empathy for processes, emotions, and thoughts that may be different from their own, while gaining an understanding of how cognition varies among humans. These first-person novels ultimately shape and enhance the way that we can understand one another.

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## **Thomas Perkins, The Boston Opium Trade, and Their Influence Upon Our Contemporary World**

Matthew Duval

(History)

*Faculty Mentor:* Bradley Davis

Thomas Perkins was one of the most influential merchants of the early American Republic. This thesis explores his role as an opium smuggler and as an influential Bostonian elite, allowing him to influence the early political development of the United States, the rise of industrialization, the construction of philanthropic monuments, and the creation of a globalized network of trade that spanned the globe, all driven largely by profits derived from the lucrative opium smuggling business into China. Much of our contemporary world was shaped by Perkins, and from an extensive examination of the historical record held at the Massachusetts Historical Society, these connections have been drawn and laid out to explore the extensive influences of Thomas H. Perkins.

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## **High-Speed Rail in the U.S.**

Katherine Escalante and Christian Deras-Rodriguez

(Political Science)

*Faculty Mentor:* Martin Mendoza-Botelho

The residents of the wealthiest (and most unwalkable) country in the world are relegated to 3 main modes of transportation: flying, driving, or underfunded public transportation. All modes have become increasingly inefficient and inaccessible in recent years. Projected increases in the US

population indicate that we are creating mega-regions that will not prosper unless they can be freed from the stranglehold of highway and airport congestion. At the same time, the United States cannot build enough highway capacity or airport runways to meet demand. Highspeed Rail systems are far more efficient in land use than road and even air.

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### **Putting Self-Compassion Into Practice: Parental Gate Opening as a Moderator of Parental Self-Compassion and Sibling Positivity**

Cailey Fay  
(Psychological Science)  
*Faculty Mentor:* Caitlin Vasquez-O'Brien

Parental gatekeeping behaviors are those that regulate their partners' involvement in child-care (Puhlman & Pasley, 2013). Parental low self-esteem is associated with gate closing behaviors (Gaunt, 2008), however links between self-compassion and parental gatekeeping have not been firmly established. Similarly, little is known about how parental gatekeeping affects sibling relationships. We hypothesized that the relation between parental self-compassion and sibling positivity and cooperation would be moderated by parental gatekeeping behaviors. Hypotheses were tested using data from an ongoing longitudinal study of 145 family triads. The sibling relationship was measured during a laboratory observation of a snack share task (Goldsmith et al., 2010). Other variables were assessed using questionnaires. Parental gate opening significantly moderated the relations between parent self-compassion and child cooperation and parent self-compassion and sibling positivity. This fits with the wider literature on self-compassion which ties the construct to emotion regulation strategies (Finlay-Jones, 2017) and social connectedness (Neff, 2003).

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### **The Nether Projection Design**

Ash Fischer  
(Theater & Performance Media)  
*Faculty Mentor:* Kristen Morgan

Projected Media for The Nether served two functions - one, to highlight and underscore the human emotions felt by the characters during their time in The Nether, and two, as a visual aid for some harder-to-visualize concepts within the storyline. There were glitches, shakes and strange imagery to signify just how disturbing The Nether really was, and there were also a lot of realistic and still moments to show the audience to settle back into a false sense of reality. This presentation plans to dive deeper into how these concepts were used and created within Eastern's main stage version of The Nether, as well as how we actually created the art that was projected onstage.

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### **Data Analysis of Movie Preferences**

Kevin Flaherty  
(Mathematical Sciences)  
*Faculty Mentor:* Kwame Effah Osei Bonsu

In this study, we analyzed data based on the movie preferences of participants from a group of eight college students. We compared students' preferences mathematically using matrices and the Euclidean Algorithm. This formula will help us find the similarities between each possible pair of participants from the sample because if the calculated distance is a small number, then the data are similar. However, as the distance between the vectors increases, the data become increasingly more different. In addition, this analysis utilizes Maple, a technological math computing source, in order to accurately determine these distances. This study identified students' ratings of five different films of five different genres. The movies included were Avengers: Endgame (Action), Ferris Bueller's Day Off (Comedy), The Shining (Horror), Coco (Animation), and Good Will Hunting (Drama/Romance). To collect the data, the participants were asked to rank each movie on a Likert scale from 1 to 5. This analysis is critical because it allows us to learn about other people's personalities in a manner that applies linear algebra and statistics to the outside world.

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### **The Effect of Forest Type on Decomposition of Organic Matter in Aqueous and Terrestrial Environments**

Abigail Fletcher

(Biology)

*Faculty Mentor:* Joshua Idjadi

Decomposition is a key process of ecosystems which allows organic matter to be broken down into basic organic and inorganic components. Studies have illustrated the effects of factors such as temperature and pH on this process, but the potential effect of forest type remains unclear. We tested the hypothesis that forest type influences decomposition rate in mammal muscle tissue in soil and freshwater environments. We immersed 24 samples of pork (*Sus domesticus*) tissue substrate in four locations representing coniferous and deciduous forest types. Samples were submerged directly into a lake or stream or buried in surrounding soil for a 49-day period. Twelve "microcosms" were recreated in 12-quart containers using soil and water collected from the original sites.

Decomposition rate was defined by measurements of mass loss, and comparisons were made using ANOVA. Results indicated a significant increase in decomposition rate in aqueous environments versus terrestrial environments and an increase in deciduous versus coniferous forest stands (in soil only). Variation in the rate of decomposition of animal tissue in different forest types would have implications for forensic investigations, such as determination of the post-mortem interval. There are also important implications for ecosystem ecology and nutrient cycling in different forest types.

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### **The Boom of AI and its Impact on the IT Sector**

Shane Haggerty

(Business Administration)

*Faculty Mentor:* Gregory Kane

The tech industry has been one of the most innovative and dynamic sectors in modern history, driving unprecedented economic growth and societal advancements. The success of this industry is largely due to its ability to operate in a largely unregulated environment, allowing for rapid experimentation, innovative product development, and fierce competition among companies at the



forefront of technological advancements. Artificial intelligence (AI) has emerged as the next big innovation, and major tech companies have already begun exploring consumer-side applications with more services expected to emerge in the coming years. This presentation will focus on the emerging boom of artificial intelligence and its impact on the IT sector market.

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### **Graph Partitioning Applied to Congressional Redistricting and Gerrymandering**

Liam Hemingway  
(Mathematical Sciences)  
*Faculty Mentor:* Megan Heenehan

Every ten years in the United States, congressional districts are drawn in each state by hand by state officials or committees. This can lead to biased drawings since the officials or committees want a certain demographic's voice to be dominant or a certain political party to win most of the elections. This is called gerrymandering and it is often discussed how exactly the U.S. should go about preventing the occurrence of gerrymandering, one such way is to create the districts mathematically rather than drawing them by hand. In this talk, we explore a method of turning a state into a graph using census block group data, then using a graph partitioning algorithm to divide the state into districts based on only population and edge cut. Through this process we found that the inclusion of edge cut came with some unforeseen geographic biases that brought the objectivity of the algorithm into question.

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### **Using Ultraviolet Light to Slow the Spread of White Nose Syndrome**

Liam Hemingway  
(Mathematical Sciences)  
*Faculty Mentor:* Chantal Larose

White Nose Syndrome (WNS) is a disease, caused by the fungus *Pseudogymnoascus destructans* (Pd), that affects North American hibernating cave bats and is known for turning bats' noses white. Because of its extremely high lethality rate, many bat species are facing extinction. This poses a threat to the larger ecosystem and farmland as a whole because of bats' role in pollination and insect population control. More recently, UV light has been shown to be effective in killing Pd, potentially slowing the dramatic decline in bat population. In this talk, I will model the disease spread in a single bat population stochastically using probability parameters derived from empirical experiments detailing the qualities of WNS and bats themselves. Then, I introduce potential interventions to the model that could arise from utilizing UV light.

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### **Social Media's Effects on Female Body Image**

Isabelle Horchos  
(Communication)  
*Faculty Mentor:* Michelle Michael

This paper explores social media's impact on body image, particularly among women. The increasing prevalence of social media has raised concerns about its potential negative effects on body image. Research shows that negative body image and body dissatisfaction may contribute to adverse mental health effects and disordered eating. A theoretical review of social comparison, objectification, and cultivation theory provides a scope for how exposure to idealized images and unrealistic beauty standards on social media may contribute to internalization, negative body image, and body dissatisfaction amongst female users. Social media's appearance-focused content, edited images, and interactive features can increase social comparison and self-monitoring behaviors through internalizing unrealistic body ideals. The idealization of unattainable physical standards can lead to discrepancies between the bodies of female users and the images they see on social media, often resulting in body dissatisfaction. Research shows body dissatisfaction contributes to disordered eating. Social media trends such as body positivity have emerged to challenge societally prescribed beauty ideals. These trends present possible solutions to help mitigate social media's negative effect on female body image and present opportunities for future studies.

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### **Expanding Demographics: From A Cupcake for Later to College Students**

Andrea Kathe, Julia Carso, Matthew Lynch, and Olivia Pendl  
(Communication)  
*Faculty Mentor:* Mihyun Kang

A Cupcake For Later is a cupcake bakery founded on Main Street in Willimantic. For 11 years, owner Cheryl Preston and her team have served the community a variety of different flavors for all of life's occasions. They often participate in town events and nearby festivals as a vendor and with their food truck. Most of their online advertising is done through social media posts on Instagram and Facebook. A Cupcake For Later currently advertises to a small demographic, women ages 35 to 45. This age group tends to use Facebook more than other social media. However, the business aspires to broaden their demographic, specifically to Eastern students. This means we must use advertising tactics curated to entice those aged 18 to 23. Our mission includes posting stories and reels with an emphasis on the businesses color scheme of pink and green, prioritizing a cohesive social media feed. In doing so, we can further brand awareness and capture the essence of the business.

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### **Measuring the Economic Effect of Crumbling Foundations due to Pyrrhotite in Northeastern Connecticut**

Matthew Kiernan  
(Economics)  
*Faculty Mentor:* Steve Muchiri

This research project measures the effect that a \$100 million relief package created by the state of Connecticut to limit the damages of the crumbling foundation issue in Northeastern CT has had on the housing market of the region. This paper aims to evaluate the cost-benefit ratio of this decision by comparing the health of the housing market in Northeastern CT to a synthetic-control group in attempt to measure the effectiveness of the relief efforts, while supplementing data on the housing

market with the personal accounts from people directly affected. I hypothesize that the efforts by the state government kept the state's housing market intact and avoided much of the estimated \$1 billion in potential damages. This is an applied microeconomic issue in a nearby region that directly affects many people at ECSU.

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### **The Effect of Junonia coenia Densovirus on the Baltimore Checkerspot Butterfly**

Billi Kozak

(Biology)

*Faculty Mentor:* Johnathan Hulvey

A better understanding of insect-virus relationships is presumably valuable for pollinator promotion and pest control, as well as conservation efforts. *Euphydryas phaeton* (Nymphalidae), the Baltimore checkerspot butterfly, has a conservation status rank of S2 or 'imperiled' in Maryland, meaning it is considered rare due to its limited population size, with one contributing variable perhaps being infection with *Junonia Coenia densovirus* (JcDNV). To gain a better understanding of how this virus impacts *E. phaeton* larvae, caterpillars were infected with a lethal concentration of virus and maintained using *Plantago lanceolata* leaves. Their cadavers and frass were measured for viral particles. It was found that many frass and cadaver samples contained measurable levels of JcDNV, sometimes at lethal concentrations, though not all of the samples had detectable virus (post-inoculation). These data suggest that both frass and cadavers could serve as effective routes of transmission, though laboratory conditions and/or host plant identity may impact viral load in frass and cadavers.

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### **Nefertiti: The Power and Divinity of Egypt's Queen**

Piper Kozar-Meyer

(Art & Art History)

*Faculty Mentor:* Maevé Doyle

For centuries, historians have known that Egyptian art was a symbolic way to showcase the powers and divinity of the kingdom leaders. Egyptian rulers were most often male pharaohs, displayed with clear symbols that indicated them as powerful and divine beings, leaders of the kingdom. Queens stood behind their husbands, represented smaller and clearly less powerful. Nefertiti, queen from 1352-1336, went against these standards, standing at her husband's side, standing at his height and characterizing herself with the kingly symbols. Carvings, temple reliefs, and busts display the regality and power that characterize Nefertiti as a powerful queen of her time. In this paper I focus on multiple pieces that showcase a clear show of divine and royal powers that put her on the same, if not higher, level to her husband, Pharaoh Akhenaten.

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## **COVID-19 and the Death Industry**

Tianna Romo Kurek and Madeline Brown  
(Anthropology, Sociology, Criminology, and Social Work)  
*Faculty Mentor: Mary Kenny*

The COVID 19 pandemic has generated policies, practices, debates, and discourses that impact not only individual lives, but families, friends, communities and the world. Our research explored the ways in which the COVID 19 pandemic impacted the death industry. To do this, we spoke with people working in healthcare, the funerary business, and clergy members. All three of these groups interact with and care for the dead, whether that be in the hospital, the mortuary, or at their gravesite. Healthcare workers provided insight into the changes put in place in the care of deceased patients as a result of the pandemic, while funerary workers described the changes put in place in how funerals were carried out. Lastly, clergy members provided us with their perspective on the impact these changes had on those who lost loved ones during the pandemic.

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## **Indigenous Archaeology in New England**

McKayla Lester and Michaela Belden  
(Anthropology)  
*Faculty Mentor: Mary Kenny*

Native Americans and non-Native archaeologists have had a long, and often tense, relationship shaped by shifting historical and political conditions. At times, non-Native archeologists were viewed as exploitative and disrespectful, while at other junctures seen as allies and advocates for Native American rights. Our presentation will focus on recent efforts by archaeologists to be more inclusive of the communities they study. To do this, we conducted interviews with Native and non-Native archaeologists and Indigenous communities in the region to gain insight into the historical and contemporary practices that enhance equity and collaboration. Preliminary results show that the relationship between archaeologists and Indigenous communities has been progressing. Participants stated that it is possible to conduct a mutually beneficial study without sacrificing the knowledge gained or moral concerns of the community. The most successful projects are those where mutual respect and cooperation are primary, and when Indigenous communities are involved in the research about them.

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## **Parental Gender Role Rigidity and Child Depression: The Moderating Role of Child Self-Perception and Inhibitory Control**

Kayden Louzada  
(Psychological Science)  
*Faculty Mentor: Caitlin Vasquez-O'Brien*

Little is known about how parental gender roles influence child depression. We hypothesized that parental gender rigidity would affect child depression and that this link would be moderated by child self-perception and inhibitory control. Children (N=290) had less depression when parents had

more equal gender roles and children had higher levels of self-perception. There were no significant interactions. This study adds to our knowledge of how gender roles impact child depression.

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### **A World Not Made for Me: A Memoir of Disability Justice**

Julianne Martin

(English)

*Faculty Mentor:* Susan DeRosa

Our bodies tell powerful stories. This memoir follows the narrator's tumultuous journey as she is diagnosed with scoliosis and then later Ehlers-Danlos, Postural Orthostatic Tachycardia Syndrome, and other conditions. Combining memoir and poetry, I explore how chronic illness has had physical, emotional, and social effects on me. The narrator experiences internal conflicts that are portrayed through war metaphors as she battles with her own body. This portion of the memoir follows the narrator in the early stages of her illness as she faces the physical repercussions of spraining her ankle. The injury causes a lot of emotional turmoil and persists past the normal recovery time. The event triggers the narrator's search for a medical diagnosis which leads eventually to the revelation about her chronic illness. This memoir evolved from an assignment in my creative nonfiction course, later turned into an independent study, and finally became my English Capstone research project.

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### **Jacqueline's Be Unique Boutique Business Plan**

Jacqueline Navickas

(Business Administration)

*Faculty Mentor:* Craig Erwin

This project develops a business plan for a boutique fashion business. The owners of the store have had a keen interest in fashion for years. Both agreed to start a business that would design and sell chic, minimalistic garments for men, women, and even dogs from recycled materials. They expect to provide clothes that offer a trendy look; clothes unavailable at TJ Maxx or Marshalls. They have found a supplier who can provide high quality, used material as well as a manufacturer who can convert the raw material into finished garments at a reasonable cost. The boutique will be located in Evergreen Walk, an upscale, outdoor shopping mall in South Windsor, CT. Fashion shows will be held on the Green at Evergreen Walk to inspire attendees to consider new, unusual, and alternative fashions, including those made from recycled materials. The shows should appeal to all ages and help attendees learn that clothes don't have to be expensive or new to be chic.

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### **Disadvantages of the Children and Families of Under-documented Immigrants: How Do Current Restrictive Immigration Policies Effect U.S. Citizens?**

Frida Nieto

(Sociology)

*Faculty Mentor:* Cara Bergstrom-Lynch

The research conducted will focus on second generation children of undocumented immigrants. The question at hand is “How Do Current Restrictive Immigration Policies Effect U.S. Citizens?” The reason why this is important is because it shows a different perspective on the current immigration issues happening in the United States. While a lot of information focuses on immigrants themselves, it is important to consider that they have close relationships and ties to American citizens. This makes it easier to be sympathetic and understand that these issues are not just affecting ‘outsiders’ but everyone else in the country as well. The group of people interviewed will have to have specific qualifications to be interviewed. The interviewees will have to be 18+, a U.S. citizen by birth (not through visas or alternative paths,) and identify as one of the following: have one or more undocumented parents, have a parent with DACA/other temporary status, or be the sibling of an under-documented immigrant. The point of the questions is to reflect back on moments in their lives where the status of the immigrant impacted them when it would not have impacted them otherwise.

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### **Media & Human Development**

Christopher Pergola  
(Communication)

*Faculty Mentor:* Michelle Michael

Media in all forms (TV, radio, advertisements, social media, etc.) is a positive thing for the people and society but, it is also a negative thing to society. This paper goes over the effects that media has on human and child development. It goes over a bunch of research that has been done to show how media affects human development. The topics in this paper are social media and well-being, gender issues, advertising to children, new technologies, and the loss of childhood. This is a very serious topic because there is a lot of research to show how the media is negatively affecting our children’s development.

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### **Phenotypic Characterization, Identification of Mutations and mRNA Expression Analysis of Flavonoid Pigmentation Mutants in the Model Legume Plant *Medicago truncatula***

Megan Piechowicz  
(Biology)

*Faculty Mentor:* Vijaykumar Veerappan

Anthocyanins and proanthocyanidins (PAs) are flavonoid compounds produced by plants, responsible for their bright colors, and have numerous health benefits. We are using a forward genetics approach in the model legume plant *Medicago truncatula* to discover genes that control anthocyanin and PA pigmentation. Phenotypic characterization of two white seed (NFxxx43 and NFxxx06-W) and two black seed (NFxxx47 and NFxxx06-B) mutants were performed. NFxxx43, NFxxx06-W and NFxxx47 mutants show complete loss of anthocyanin whereas NFxxx47 shows decreased anthocyanin pigmentation in vegetative organs. In seeds, NFxxx43 and NFxxx06-W mutants show complete loss of PA whereas NFxxx47 and NFxxx06-B mutants show decreased PA. Furthermore, NFxxx47 and NFxxx06-B mutants display decreased mucilage in seeds. To associate causative mutations, Tnt1 insertions were identified and mapped to *M. truncatula* genome. Using a

database, mRNA expression of candidate genes was analyzed for seed specific expression. In addition, mRNA expression analysis of genes in a novel deregulated anthocyanin pigmentation1 (dap1) mutant was performed using real time quantitative PCR. Understanding molecular mechanisms of how anthocyanin and PA pigmentation is regulated in plants will help us to develop agricultural crops with modified flavonoid content, through genetic manipulation for medicinal and nutritional benefits.

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### **Puppetry as Parody: Examination of The Muppets as Remediation**

Rebecca May Ristow

(Theater)

*Faculty Mentor:* David Pellegrini

Jim Henson's The Muppet Show, and all of its adaptations, is a divine expression of remediation. The show, which featured puppets imitating celebrities and took place on a filmed proscenium stage, was a form of parody, taking the 'sophisticated' world of theatre and twisting it to be completely bizarre. Perhaps attributable to lack of commercial intervention in the original series, The Muppets were able to freely parody the very world from which they came: Hollywood. With changing culture, including public views of celebrities, The Muppets have been adapted several times. Sometimes it fails, but when proper societal views are taken into account and the creators remain faithful to the original point of the parody, it succeeds. By comparing many adaptations of the Muppets and taking into account the context of their individual creations, I hope to explore the cultural significance of parody in relation to the growing inaccessibility of theatre.

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### **Upcycling: An Approach to Sustainable Fashion**

Allison Sawtelle

(Theater)

*Faculty Mentor:* Anya Sokolovskaya

This presentation will explore the ideas of how accessible and affordable sustainable fashion can be and bring awareness to the amount of waste the fashion industry generates. Samples of textiles and prototyped upcycled pieces including bags, bucket hats, headbands, scrunchies, and salvaged garments will be showcased. These pieces were created from fabric from FabScrap, a fabric recycling warehouse in Brooklyn, NY. This project involved traveling to the warehouse and sorting fabric as a volunteer, gathering textiles and destroyed garments, and creating one-of-a-kind pieces from them. Audience members will learn more about what "sustainable fashion" really means, how to be a more mindful consumer, and how the industry can realistically apply more sustainable practices.

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### **The Effects of Social Media on Students' Academic Performance**

Sabrina Scaccia

(Communication)

*Faculty Mentor:* Michelle Michael

As social media becomes more dominant in society, it raises questions of how it is affecting people's daily lives, specifically students. Also, if there are positive or negative effects on their academic performance. Past research has shown that there are direct effects on academic success. On the other hand, many of the research concludes that there is no direct effect on the academic success of students. Also, many of the research discusses technology as a whole, not just social media. Because social media is so new, it is always changing and evolving. I reviewed literature on social media, and aspects of academic performance to come to conclusions. The results show that social media does have a direct effect on a students' academic performance, whether that's in a positive or negative way.

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### **EYE PATCH: Debugging Piracy through the Lens of Disability Justice**

Caroline Sechrist

(Women and Gender Studies)

*Faculty Mentor:* Maureen McDonnell

I analyze digital piracy through the lens of Disability Justice and suggests ways both movements can synergize to strengthen their anti-capitalist foundations. I discuss my experiences with digital piracy and maintain that without digital piracy secures my access to academia because it is the only way that I can obtain accessible textbooks. White men often dominate spaces that promote digital piracy, which makes it difficult for me as a queer and disabled femme to find a space in the community. Additionally, Disability Justice communities have not explored their relationship with digital piracy and have no major discourse surrounding how Disability Justice applies to digital piracy. I apply the unwritten moral codes of piracy to the Principles of Disability Justice to begin the conversation on how the two communities can unite and meet their mutual goals.

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### **Expanding Disability: Challenging Disability Theory in Rosemarie Garland-Thompson's essay "Integrating Disability, Transforming Feminist Theory"**

Cici Sechrist

(Women and Gender Studies)

*Faculty Mentor:* Maureen McDonnell

In her essay Integrating Disability, Transforming Feminist Theory, Rosemarie Garland-Thompson discusses how feminist theory applies to disability studies and vice versa. She explains in depth how society perceives the body, representation, identity, and activism and how this perception affects both the experience of disability and the experience of womanhood. While Garland-Thompson does an exceptional job exploring how systems that uphold power structures oppress visibly disabled individuals, she does not adequately explore how these theories apply to invisibly disabled individuals. I explore Garland-Thompson's essay through the lens of invisible disability and expand upon how her theories can apply to invisibly ill individuals, especially those who are young and experience womanhood and support my stance with evidence from current media and news publications. I also offer critique and suggestions of what this essay lacks regarding representation and accuracy to the invisibly ill community and suggest how individuals can apply anti-ableist practices and mindsets in praxis.



## **Effects of Internet Usage on Child Development**

Emily Selbie

(Communication)

*Faculty Mentor:* Michelle Michael

The internet has become an integral part of daily life, and its use among children is increasing rapidly. While the internet provides many benefits, it can also have negative effects on child development in three aspects: emotionally, socially, and cognitively. Emotionally, excessive use of the internet has been linked to a range of negative emotions, such as anxiety, depression, and loneliness. Socially, internet usage can lead to a decrease in interpersonal communication skills. Cognitively, the internet has the potential to enhance learning and intellectual development. However, it can also negatively impact cognitive development by reducing attention span, impairing memory, and hindering problem-solving skills. Internet usage can have both positive and negative effects on child development. It is essential to monitor and limit children's internet usage to ensure they receive the benefits while avoiding the negative effects. Parents and caregivers can promote healthy internet use by setting boundaries, monitoring content, and encouraging real-life social interactions.

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## **Burnout Blues: The Effects of Staffing Shortages on Healthcare Staff**

Emily Simmons, Rebecca La, and Brittany Lohman

(Health Sciences)

*Faculty Mentor:* Mary Kenny

Our presentation will discuss the effects of staffing shortages on health outcomes. Staffing is a major problem in healthcare, but few studies examine the impact of shortages on healthcare staff. We explored this issue by conducting 17 interviews and participant observation in a hospital setting and in a long-term care facility and include the perspectives of nurses, managers, and nursing aids. We discuss how staffing shortages overlap with unresolved workplace issues that culminate in 'burnout,' an overarching term that impacts not only staff mental and physical health but creates financial and other personal disruptions. This leaves patients feeling abandoned and vulnerable, and their families angry and anxious. Unfortunately, healthcare managers either fail to recognize the problem, or respond with negative or ineffectual suggestions to alleviate 'burnout.' Overall, this issue is embedded in a much larger medical industry shaped by socioeconomic, cultural, political, and economic forces that places low priority on healthcare staff. To mitigate the effects of staffing burnout, we suggest more support both inside and outside the clinical setting.

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## **The Struggle for Acceptance in a Society Against Black Women**

Kevana Simpson

(Communication)

*Faculty Mentor:* Michelle Michael

The research I will be focusing on in this study follows the concept of the struggle for acceptance in a society against black women. Black women are heavily criticized in the media no matter the circumstances. It just so happens that a lot of judgment comes from within the black community as well, which is one of the leading contributions to colorism and stereotypes. The importance of this research is to examine the root of these issues such as the Jim Crow era. This era of discrimination has contributed to how black women are seen in current day media. This research will further display how the mass amounts of negativity surrounded by black women affects their mental health from all age groups. The methods used in this research consists of literature reviews which helped conclude the idea that black women continuously struggle in a society that never began on their side.

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### **The Right Way to Direct**

Liv Skerry  
(Theater & Performance Media)  
*Faculty Mentor:* Kristen Morgan

On a sunny afternoon in second grade, I sat on a bench on the playground and held my first auditions during recess. I was casting “The Phantom of The Opera”, and no, the production never got off the ground. But it’s the earliest memory I can remember of wanting to direct. To manipulate space, people, and text on a stage. And though I’ve learned a lot from studying Directing here at Eastern, I’ve discovered contradictions in each piece of text or advice from every class or professor. Of course, I must take everything with a grain of salt; directors are confident and sure. But what if I’m not a director yet? Who do I listen to? I set off on this project trying to find the right way to direct. How to interact with the cast and production team. How to interpret texts. Even how to make the audience feel what I want them too. I will be using data from my interviews with a diverse set of directors to find the right way, and better yet, my way.

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### **The Matrix and Ancient China**

Sister Alexandria Smith  
(Mathematical Sciences)  
*Faculty Mentor:* Kwame E Osei Bonsu

Ancient China was the first ethnic community to discover and use a matrix. Much of what was discovered about the matrix in the Western world had already been discovered and used for many centuries earlier in China. One of the earliest documents from Ancient China is The Nine Chapters on the Mathematical Art. The document shows the reader how to solve matrices using the fangcheng rule—what is known today as the Gaussian elimination method. This presentation will investigate the basic mathematical approach in Ancient China as well as the social pressures of the day for which the matrix was used (mostly farming), tools that were available for mathematical analysis in Ancient China (counting board) and societal traditions that helped support the study of the matrix in ancient China.

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## **The Reestablishment of Bagel One Business' Social Media Presence**

Amelia Snyder, Riley McConnell, Sarah Stephens, and Jack Demers  
(Communication)

*Faculty Mentor:* Mihyun Kang

This local take-out restaurant offers a wide variety of freshly made bagels and spreads. Bagel One has been making bagels from scratch for over 35 years. Bagel One offers a high-quality product and home-grown feel, while working to create a niche product that successfully imitates a New York City specialty bagel, at an affordable price with accessibility to North Windham and its surrounding areas. The primary problem of Bagel One is their lack of a social media presence. The opportunity is to utilize their social media platforms on Facebook, Instagram, and Tik Tok to expand their business to the college demographic. At JARS Public Relations, a student-operated PR agency, our mission is to develop a new campaign to gain more exposure. Today, it is vital to be able to adapt and utilize new platforms to attract new and lasting clientele. Being active on social media is the most important objective for our team in order to expand the business to surrounding college populations. Our goal is to translate comforting and positive messages through the use of social media to expand Bagel One to our primary target audience (college age students) and our secondary audience (parents with families). In order to reach this audience, we will post catchy, engaging, and appealing content to increase exposure and more attention to Bagel One as a whole. The goal of this is to make the products look appetizing and compel our audience to want to visit the business. Our campaign period will run from March 31st to November 30th, 2023. This provides us with an eight-month period to analyze the expected growth in order to benefit Bagel One. For our media/promotional mix, we will be using the internet as a two-way communication between Bagel One and their current and prospective publics. This will allow us to communicate, create brand awareness, and increase revenue for Bagel One. We expect Bagel One to form a stronger relationship between their business and the college age demographic. Simultaneously, we hope to improve their exposure and image to the public through a strengthened social media presence.

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## **The Big 'C' Word--And Everything That Comes with It**

Emma Sullivan  
(English)

*Faculty Mentor:* Susan DeRosa

While many “cancer” memoirs are written from the perspective of people who have suffered with this illness, few memoirs are told from the perspective of a family member and caregiver. This memoir narrates the emotional and psychological challenges I experienced after having multiple family members diagnosed with cancer. Witnessing my loved ones endure and succumb to cancer led to feelings of denial, sadness, anger, and grief which I suppressed for a long time. Stitched together from conversations with family members, my journal entries, and my memories, I attempt to come to terms with how my family members’ cancer journeys have affected my life. This section of the memoir follows the narrator as she goes through losing the first two family members to cancer and the emotional and mental distress it puts her in. This project emerges from writing done in my creative nonfiction course and has become the basis for my English Capstone directed research project.

## **Creating Awareness for a Local Business - Bliss Boutique Advertising Campaign**

Autumn Szucs, Natalie Lorenti, Laura Martenson, and Emily Jeamel  
(Communication)

*Faculty Mentor:* Mihyun Kang

Bliss is a thrift store that buys and sells gently used clothes for discounted prices. Bliss is not well known in the community, and desires more exposure to both ECSU students and Willimantic residents. We formed a student-operated marketing agency, Nale Marketing, to help a local business advertise their brand, and Bliss Boutique is our first client. Bliss Boutiques' primary goal for Nale Marketing was to reach out and create exposure among the college demographic. Our campaign idea is to increase awareness of the boutique by posting on Bliss Boutiques Instagram and Facebook. As well as posting paper copy ADs among ECSU's campus to create exposure to college students, more so females. We plan on launching our new campaign for the spring season when spring closet cleaning is at large. We hope to bring awareness to the boutique and bring more attention to Bliss by promoting their business, merchandise, and mission on their business Instagram and Facebook, as well as through paper AD copies among ECSU's campus.

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## **IVP: Industrial Veteran Production**

Cecylia Szwajger, Marcus Prezioso, Nancy Scanlon, and Ty Collige  
(Communication)

*Faculty Mentor:* Mihyun, Kang

This integrated marketing campaign dives into Industrial Veteran Productions and how communication tactics such as advertising and public relations can create a better business model. Industrial Veteran Productions, or IVP for short, is a photography and videography business created by Ty Collige in May 2020. Centered in Woodstock, Connecticut, IVP focuses on wedding, real-estate, dance studio, concert, and landscape photography. Prevalent weaknesses in Industrial Veteran Production's business model include a non-active social media presence as well as certain areas of photography such as weddings and real-estate having off seasons. The major opportunity that IVP can exploit is social media presence. Boomerang Marketing a student operated agency, that works with clients such as IVP, to help the business excel at its services. Boomerang Marketing aims to increase IVP's social media presence to allow for the business to gain new customers as well as be a go-to local photographer. Boomerang Marketing intends to have IVP reach college students as well as the general public through social media. These target audiences were chosen since photography services are broad thus most demographics tend to use said services. In order to expand IVP's social media presence, Boomerang Marketing has created both a promotional mix and media mix. The promotional mix for IVP revolves around direct marketing, digital marketing, advertisement, public relations, and flyers/brochures. The media mix for IVP revolves around the use of the internet, social media platforms, YouTube advertisements, flyers/posters, and newspapers. The campaign period in which Boomerang Marketing plans to institute includes posting on Instagram and on IVP's website year-round while Facebook and LinkedIn will promote IVP during the presumptive off seasons in January, February, July and November. Boomerang Marketing hopes that the execution of the social media campaign for Industrial Veteran Productions will boost clientele and over become an efficient business model.

## **Disabled is Not a Dirty Word**

Sarah Theriault

(Sociology)

*Faculty Mentor:* Cara Bergstrom-Lynch

Disabled is Not a Dirty Word highlights the misconceptions and struggles disabled individuals face. The basis of inclusion starts with the legislation in the Americans with Disabilities Act which promoted equitable access for those with disabilities in various aspects of life. Terminology has proven critical in uniting those with disabilities with their allies. Ableism, discrimination based on (dis)ability status, has become the norm in classrooms and most public and private areas of life. Unfortunately, when disability is not respected, and misconceptions thrive, an inaccessible world is crafted. Knowledge is power, and education on disability-specific battles is the key to unlocking a united front.

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## **Exploring the Potential of Nanopore Sequencing in Undergraduate Education: Insights from Arachnid-Based Pilot Studies in Classroom, Lab, and Field Settings**

Dylan S. Tillman, Caitlin M. Wagner, and Athenea Acosta

(Biology)

*Faculty Mentors:* Carlos E. Santibáñez-López, W. Brett Mattingly, and Matthew R. Graham

Third-generation sequencing encompasses a range of technologies that enable more efficient and accessible sequencing of long DNA strands. Nanopore sequencing, which monitors changes in electrical current as DNA or RNA passes through microscopic pores on flow cells, is a cost-effective option with flow cells costing as little as \$90, making it ideal for undergraduate research experiences such as CUREs, independent studies, and global field courses. We utilized a portable MinION nanopore sequencer (MK1C) to investigate the potential of long-read data from arachnid species for gut content studies, phylogenetics, and genome analyses. Results were promising, with successful identification and quantification of arthropod prey items from scorpion gut content, although the presence of microbial DNA contamination limited the technology's utility in studying arachnid microbiomes. Nanopore sequencing data provided useful information for estimating phylogenetic relationships among some giant hairy scorpions, but analyses were sensitive to low depths of coverage. The approach also enabled inexpensive sequencing of complete mitochondrial genomes from scorpions and camel spiders and even has potential for whole genome sequencing of non-model organisms by undergraduate students.

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## **Beyond the Hype: Attitudes and Perceptions of Long-Term Marijuana Users**

Dayshalee Torres, Jaime Centrone, and Nancy Nguyen

(Health Sciences)

*Faculty Mentor:* Mary Kenny

The use of marijuana (cannabis) is perceived by many as a harmless, enjoyable substance. However, research shows that chronic marijuana use can lead to negative health outcomes such as dependence,

mental health challenges, and respiratory issues. Our research explored the effects of chronic marijuana use on individual health outcomes by interviewing long-term marijuana users (5+ years), aged 18-65. We asked about their history and experiences with this substance, while focusing on the social and health-related consequences of chronic cannabis use in their lives. We included nature, extent and context of use (when and where), knowledge and beliefs about cannabis, individual effects (physical both positive and negative), and psychological effects (positive and negative). We summarize the meaning attached to cannabis use for individual users in an emerging context of widespread legal, recreational use.

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### **Color Theory in Advertising: How Social Media Brands Use Color Theory to Attract Consumers**

Alex Turner

(Communication)

*Faculty Mentor:* Michelle Michael

With the growth and usage of social media at an all-time high, social media brands must find ways to make themselves stand out from the tens of thousands of competitors they face. Studies have found that the colors a brand uses are essential for brand recognition and gaining customers through repeated exposures to them. Reviews of literature found numerous qualitative test results that directly correlate a company's social media success with their application of concepts related to color theory such as visual processing and C.R.A.P. (Contrast, Repetition, Alignment, and Proximity) principles in their logos, user interface (UI) and advertisements. To surpass their competition, social media brands must combine these concepts into a unique display that uses color to highlight attention to the brand, its core values as a company, and its ease of use by an online consumer. However, a redesign to any degree is necessary for a social media brand in order to retain the consumers' interest or improve their online experience with the brand's services in the future.

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### **The Applicability of Information-Flow Theory in the Modern Digital Age Through the Lens of Censorship**

Kane Waggoner

(Communication)

*Faculty Mentor:* Michelle Michael

Though there are a multitude of Middle-range theories that discuss limited effects theory, many of them are criminally outdated & do not provide an adequate method of analyzing the way mass media functions in this day & age. Continual use of outdated research methods when analyzing mass communication may leave us with an incomplete or altogether incorrect assumption about how information is created and received, which might lead to a further spread of censorship and misunderstanding of digital technology. Using survey & observation data from other papers which discuss the flow of communication in regard to digital technology & censorship in the modern age, we might better understand how this theory is being currently applied. Information-flow Theory is the most applicable Middle-range Theory in the modern age of mass media, not just in the communications field, but also in many others such as economics, marketing, & sociology.

## **Sports Media and the Effect on Athletes' Decisions**

Brett Weldy

(Communication)

*Faculty Mentor:* Michelle Michael

Many studies found a link between sports media and the effect on athletes' decisions. All athletes make decisions that they see as justifiable in their eyes. Often athletes are criticized for making decisions we disagree with, with no background knowledge of why they decided to do whatever. We do not look enough into why athletes make these decisions that we might disagree with. The research method used was a review of the literature, looking at all different types of athletes, from men and women, to pro and college, and even younger student-athletes. Results revealed that athletes make decisions to better benefit themselves and their families. Athletes do what's best for them, to make themselves look better in the media or the eyes of their superiors.

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## **The 2016 Connecticut Presidential Primaries: Political Independence, Town Demographics, and Support for Outsider Candidates**

Jarod Werner

(Political Science)

*Faculty Mentor:* Nicole Krassas

This paper analyzes the results of the 2016 Connecticut presidential primaries. It looks at the results from both major parties to see what factors led to greater support for outsider candidates (for the Democrats, Bernie Sanders, and for the Republicans, Donald Trump). The hypothesis was that towns with a higher percentage of unaffiliated voters, as well as towns that were generally rural, lower income, and had more largely white populations would tend to have greater support for the outsiders based on the literature regarding outsider candidates. The hypothesis was supported by the findings. Most significantly, wealthier towns with more educated populations demonstrated far less support for both Trump and Sanders in their respective primaries. Both tended to fare better in towns with greater political independence, those that were more rural, and towns where minority residents comprised a smaller percentage of the population. The study focuses on quantitative aggregate results across each town in Connecticut, but also includes some mixed methods regional analysis, helping to provide insight on not just the 2016 primaries but the general election outcome as well.

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## Panels

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### **Popular Literature and Culture: Where the Past Meets the Present**

Allison Speicher (Faculty Mentor)

#### **Of Carrots and Turnips: School Rebellion in Nineteenth-Century Literature**

Melody Cabarroguis  
(English)

In the nineteenth and early twentieth centuries, schooling began to rapidly expand and become a part of daily life. So, literature for children during this time often included schooling and education in the lives of the fictional characters. Many novels have scenes in which the main characters accept or rebel against the school system they are in, but only a few scholars have discussed how these characters rebelled in school settings. It is important to note in my paper that there are strong similarities of school rebellion actions and behaviors of children even though they are in different cultures and countries. I am putting texts of Indigenous, Asian, and White authors into conversations, and I argue that in these texts, children react and rebel in schools when their personality, gender, race, ethnicity, childhood, and home, ergo, their identity, is threatened. I use the texts *Jane Eyre* (1847), *David Copperfield* (1849), "School Days of an Indian Girl" (1899), *The Middle Five* (1900), *Anne of Green Gables* (1908), and Rizal's *Story of His Life* (1918). Although their contexts differ, literary representations of schooling from these cultures share strong commonalities. Closely examining rebellion of children in school settings sheds new light on how children's identities affect their rebellious actions and behaviors and raises questions about when disobedience is actually activism.

#### **Out of the Wallpaper and on to the Bestseller List: How the Female Gothic Evolved into the Psychological Thriller**

Phoebe Gediman  
(English)

The classic Gothic house, supernatural entities, creepy children, women locked away upstairs, manuscripts and letters, unreliable narrators, mental illness, and infidelity are all tropes that make up the nineteenth-century Gothic genre. Women writers of this era took these original trends and used them to portray patriarchal oppression, forming the genre of the Female Gothic. I contend in this research paper that the usage of these classic tropes to shed light on feminist struggles has continued into the twenty-first-century, in psychological thrillers with women protagonists, written by women writers, for women audiences. Although this continuation tells us that the Female Gothic was historically significant and contemporary women writers are aware of its ability to empower, I argue that the psychological thrillers are not successfully increasing empathy towards suffering women or protesting gender inequality. By comparing characteristics of Female Gothic works such as "The



Yellow Wallpaper” by Charlotte Perkins Gilman, Jane Eyre by Charlotte Brontë, and Louisa May Alcott’s thrillers to contemporary bestselling psychological thrillers such as Colleen Hoover’s Verity, Alice Feeney’s Rock Paper Scissors, and Paula Hawkins’ The Girl on the Train, I trace how these contemporary texts offer significantly less feminist critique than their predecessors because of how they fetishize trauma.

### **From the New Mother to the Other Mother: An Intersectional Look at Age and Class in Neil Gaiman’s Coraline and Lucy Clifford’s “The New Mother”**

Marcus Grant  
(English)

Discussion surrounding Neil Gaiman’s novella, Coraline (2002), has foregrounded psychoanalytic and feminist theories, centering on the gendered antagonism presented as the titular character fights and defeats her supernatural “other mother”. Scholars have often overlooked an underlying issue that Coraline faces: her family’s lower-class status. My argument illuminates the heavy impact that classism has on the family dynamic, specifically the significance of working from home, which both of her parents do. Using social science research preceding and contemporary to Coraline’s publication, I demonstrate how the text fits into the cultural zeitgeist around the “work from home” dynamic as it developed at the turn of the twenty-first century, especially the challenge it presents to the historical separation of “work” and “home.” To supplement my analysis, I examine one of its source texts, Lucy Clifford’s “The New Mother” (1882), to facilitate historical comparisons of the relationship between “work” and “home” in the Victorian period, when they were first teased apart, and the contemporary moment, when they are once again blurring, to examine the effects of late-stage capitalism on societal fears. As working from home has become prominent in American society following the pandemic, discussion surrounding these effects is more relevant than ever.

### **The Male Teacher as Caring Pragmatist, Finally**

Elliot Lawrence IV  
(Liberal Studies)

Popular representations of teachers and schools produced by Hollywood adhere to specific tropes of teacher and administrator characters, predominantly portraying educators as female, white, caring, and motherly. Due to overrepresentation, many scholars have only analyzed female characters and have neglected their male counterparts. I focus solely on male teachers and administrators, evaluating and broadening the terms scholars have coined by applying them to male teaching characters in popular films. Concurrently, the experiences of real teachers are analyzed to evaluate the impact Hollywood narratives have on male teachers’ self-perceptions, as well as society’s perception of them. Over time male teachers and admins in films have shifted from overly authoritative to being caring, prioritizing students’ academic interests, and being pragmatic in their efforts. I believe this shift will have profound effects in leveling the uneven gendered stereotypes that society and popular media portray onto teachers of all identities, especially real-life male teachers. The shift away from overly masculinized traits, such as being authoritative and cold, or overly feminized traits, such as being warm, and caring will foster an environment for modern-day students to explore their own masculine/feminine character traits in the classroom without the abundant over-influence of any gender teacher.

## **Creating the Nineteenth Century in the Modern World: The Stories of Benjamin and Loretta**

Alyssa Meneo  
(English)

While most nineteenth-century children's literature was strictly didactic and heavily urged its readers to practice religious morals, there was a gradual shift throughout the decades towards stories that can be didactic but also read purely for pleasure, similar to children's literature we see today. Through my analysis of this literature, I find that stories written around the same time periods often carry similar formulas and structures based on the societies they were written in and the values that were held by the majority during that time. I have written a series of interconnected short stories that will mimic the way past texts were written through modern adaptations. The adaptation I will be reading is the second story in my series and is based on the popular text *Rollo at School*, published in 1839. I have considered the formation of characters, plot line and the role of women and portrayed these through the characters, Loretta and Benjamin. Readers follow the lives of Benjamin, a young boy living happily with his single mother, as he tackles what it means to be a man and Loretta, the new girl in town, sure of herself and unafraid to show it. Although their experiences are different, the two connect quickly, bonding over individuality and laughs.

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## **The Lord of the Rings: Novel and Film**

Kenneth McNeil (Faculty Mentor)

## **The Spirit of a Book in Film: Comparing The Lord of the Rings and The Hobbit Films as Faithful Adaptations**

Georgia Chesworth  
(English)

This paper examines the theatrical versions of Peter Jackson's film trilogies based on J.R.R. Tolkien's books, *The Lord of the Rings* and *The Hobbit*. It evaluates their success as adaptations of their respective source material while comparing scenes from films to Tolkien's books. The paper explores the nature and difficulty of adapting novels into the medium of film and highlights the various successes and failures of Peter Jackson. Primarily, how Jackson's choices to create his own newly created ideas inside *The Hobbit* trilogy bloated Tolkien's original character development and themes. This is in contrast to Jackson's choices to omit or add new scenes to *The Rings* trilogy, which upheld Tolkien's character development and themes with much more success and with warmer fan reception.

## **The Influence of Shelob: Modern and Mythological Foundations of Tolkien's Horror**

Frank Corbett  
(English)

Tolkien is famous for his construction of fantastical elements based in European mythology and folklore, yet some elements or their sources elude readers at first glance. In “The Influence of Shelob” we explore the foundations set for one of Tolkien’s most iconic monsters as the elements surrounding her relate to the tale of Angrboda, and other monstrous beings found in the cultural memory of the continent. Shelob, thematically, shares a resemblance to the wife of the Scandinavian trickster god Loki, whose name roughly translates to “bringer of sorrow,” and who dwelt in a cave, giving birth to a brood of horrible creatures destined to overtake the world at the end of days, Ragnarok. Despite these similarities, Tolkien ensures to make Shelob his own, combining these mythological themes with a 20th century lens that provides a nuanced insight into the cultural perception of femininity, marriage, and motherhood during Tolkien’s lifetime.

### **The Collected Poems of Middle Earth**

Victoria Dennis  
(English)

Tolkien’s literary legacy has left a profound impact on the field of fantasy literature, inspiring countless generations of writers and scholars. In Professor McNeil’s Lord of the Rings class last semester, we delved into a close reading of The Hobbit and Lord of the Rings, exploring Tolkien’s epic and balladry. During this exploration, I found myself inspired to create poetry of my own. I examined the gruesome origin of orcs, the idea of fate and destiny, bravery and apathy through a series of fifteen poems.

### **You Have Grown, Halfling!; ‘Scouring of the Shire’ in Tolkien and Jackson’s Return of the King**

Paige Stegina  
(English)

JRR Tolkien’s Lord of the Rings offers readers a masterpiece of a world while following Frodo Baggins on his journey to save Middle Earth. In the movie adaptations, Peter Jackson is often praised for his faithfulness to the original work, with only minor changes throughout the series. I argue that these changes impact the story arc and message of the series. I analyze one of the most notable omissions, the penultimate chapter of the series, “Scouring of the Shire”. The chapter is often seen as an independent, disjointed addition to Return of the King . I argue that Tolkien was purposeful in the chapter in the way it changes the story type of the series and the character development of Frodo. Jackson’s exclusion of the chapter changes the overall message of the series, allowing the characters to return to innocence after their adventures. Tolkien brings a sense of realism to the text, which is essential to understanding Frodo’s character at the end of the series. “Scouring of the Shire” illustrates how the addition or omission of a single chapter of a story can significantly change the message of a story.

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## **A Celebration of Eastern's Fiction Writers**

Christopher Torockio (Faculty Mentor)

Frank Corbett, Kai-li Davey, Regina Grant, Maisie Hayes, Skylar Mink, Clelie-Ann Ryan, Marcus Grant

This panel/group presentation will feature six talented Eastern fiction writers sharing the original work they've created over the course of their studies. The panel consists of published authors; students headed to graduate school to study creative writing; students who have studied, or will be studying, fiction writing abroad in Florence, Italy; and will feature a broad range of styles, themes, subjects, and voices that reveal all the various complexities of the human condition.

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## **Poetry Writing and Social Justice: Eastern Poets Read from Their Capstone Projects**

Daniel Donaghy (Faculty Mentor)

Lilia Burdo, Sara Green, and Samuel Perez-Lopez

Eastern student poets working with Dr. Donaghy on capstone projects that examine the relationship between poetry writing and social justice share and discuss selections of their creative work.

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## **Eastern Student Poets Share Their Work**

Daniel Donaghy (Faculty Mentor)

Juana Santana, Havi Brouillard, Adeba Reza, Dana Arroyo Infante, and Christeena Aaron

Students from Dr. Donaghy's Writing Poetry and Advanced Writing Poetry courses share some their creative work, which examines essential questions of personal identity and social responsibility.

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## **Eastern's Kennedy Center American College Theater Festival Awardees**

Kristen Morgan (Faculty Mentor)

Millie Carlson, Evan Carney, Ash Fischer, Jillian Martin, Eric Roesler, Ashlynn Sminkey, Kane Waggoner, and Tyler Warren  
(Theatre & Performance Media)

Moderated by Professor Anya Sokolovskaya, Eastern's Kennedy Center American College Theatre Festival awardees from the recent main stage production of "The Nether" will discuss their collaboration on the production and what it means to be recognized by the Kennedy Center for their outstanding work. The Nether, a new play by Jennifer Haley, was produced in the DelMonte

Studio Theater earlier in the spring semester as part of the Theatre & Performance Media main stage season.

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**Business Ventures "Shark Tank": Cannabis Entrepreneurship and More**

Ashon Avent (Faculty Mentor)

Ava Sanchez, Mackenzie Teper, Jared Rusconi, Maxfield Hand, Axl Blumes, Cody Worsman, Dylan Bessette, Evan Baptista, Jared Rusconi, Jesse Jordan, Raphael Joseph, Juliana Pasakarnis, Kush Patel, Grady Kelly, Leah Coelho, Jillian Martin, Sara Marrufo, Mitchell Rampino, Jason Wang, Liam Ardito, Zion Walker, Adriel Espada, Jacob Ricketts, Nathan Cerasale, Luis Sanchez, Megan Pardee, Seth Thomas, Teonjai Jackson-Beaufort, Madison Gartsu, Celina Menzies, Erin Dwyer, and Alejandra Martinez Soto  
(Business Administration)

Students mentored by entrepreneur and marketing lecturer Ashon Avent make business pitches for developing and promoting cannabis business ventures. Designed as a “shark tank” pitch event, the session will highlight the emerging field of cannabis entrepreneurship.

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## Performance, Demonstration, Video Abstracts

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### **War in the Galaxy**

Sarah Burkart

(Music)

*Faculty Mentor:* Christie Echols

War in the Galaxy is a solo performance composed of multiple, interchanging electronic midi sounds mixed with 80s synth attacks and thumping bass lines. The ultimate goal was to create an abstract song that reflected both my interests of music mixed emotion. With each melody comes its own character, and once the solo melodies intertwine, the war begins. As the piece opens, a whimsical theme draws the listener in to the calmness of the galaxy and the beauty surrounding as the “hero” travels around patrolling to make sure no intruders are near. As soon as the bass kicks in, the enemy approaches yet does not come near our hero. The eerie sounds and chaos within the synthesizers allow the listener to feel on edge as the enemy approaches. As the sounds battle for dominance, the war continues and hero is never to be heard again. This piece can quite literally be a war in a galaxy or can reflect the war that we can feel inside. With the many noises and voices that are constantly thrown at us, it’s up to the one melody (our own tune) that we must follow to bring us through the war of everyday battles.

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### **The 3 O’clock Jazz Band**

Donald DeForge, Nick Ford, Evan Gianfriddo, Grace Michalowski, Jason Skoog, Evan Wood, and Jacob Wurst

(Music)

*Faculty Mentor:* Rick O’Neal

The 3 O’clock Jazz combo will perform original arrangements of classic jazz standards, selected from their repertoire.

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### **Farewell by Sergio and Odair Assad**

Nicholas Ford and Kyle McElroy

(Music)

*Faculty Mentor:* Morgan Brown

A performance of the piece "Farewell" by Sergio and Odair Assad. The piece was composed for the movie "Natsu no Niwa" (夏の庭) by Shinji Somai, and depicts the convergence of the lives of three sixth grade boys; their relationship with each other, their grappling with the death of a loved one, and their celebration of the life of one old man that brought the three boys together.

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## **A Micro-Recital of Classical and Musical Theater Repertoire for Voice & Piano**

Chris Gregor, Mya Millbauer, Sierra McElroy, Grace Michalowski, Adam Benway, and Manuel De La Flor

(Music)

*Faculty Mentors:* Emily Riggs and David Ballena

This recital features a selection of songs and arias from audition materials presented at the 2023 CT Chapter of the National Association of Teachers of Singing's annual Student Auditions. Each of the six singers featured on this program received an award for their performance at this year's statewide competition. All performances are accompanied by Dr. David Ballena.

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## **J.S. Bach - Prelude & Fugue in C minor, BWV 847**

Aidan Reiss

(Music)

*Faculty Mentor:* Okon Hwang

Johann Sebastian Bach (1685-1750) is widely considered to be one of the most fundamentally important and cornerstone composers in the history of music. Born in Germany in 1685, Bach was a well-known composer, harpsichordist, and organist, composing Masses, Passions, Cantatas, chamber music, and uncountably more. His genius of harmony, polyphony, tonality, and structure has registered him as a “father” of western classical music, and his works continue to be appreciated today, more than 250 years later. The following performance is from a massive, "old testament" oeuvre of western keyboard method, known as the Well-Tempered Clavier. Each piece, composed in all 24 major and minor musical scales, presents a unique and characteristic prelude, followed by a fugue, a Baroque polyphonic compositional style characterized by counterpoint, hand independence, and subject-theme foundations.

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## **The Evolving Self: A Video Memoir**

Jack Espinoza

(New Media Studies)

*Faculty Mentor:* Stephen Ferruci

In this video memoir, I explore the college experience before, during, and after the Covid pandemic. I explore my experiences at UConn as a first semester student who quickly became disillusioned and disappointed in himself. At the time, I blamed others: my roommates, other students, and I eventually transferred to Avery Point, a college near home. Through narrative reflection and footage filmed at UConn, Avery Point, and ECSU, I revisit that choice and the community that I developed at Avery Point. This community enabled me to understand that my own choices and acceptance of the social media myth of the college experience both played a role in my failure to fit in at UConn. I reflect on the importance of community and the irony of finding it during a lockdown

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## **The Devil in the Delta**

Thomas Fisher  
(New Media Studies)  
*Faculty Mentor:* Stephen Ferruci

This project falls somewhere between a documentary, a travelogue, and a video essay that explores the history of American music via a road trip through the state of Mississippi. It will cover the likes of Muddy Waters, B.B. King, Charley Patton, Son House, and the mystical Robert Johnson, who is rumored to have sold his soul to the devil. This story of him making a deal with Satan at the crossroads became an urban legend that would follow both him and the blues into the present day. The film connects the dots between mainstream rock n' roll, its own satanic controversies, and the relatively small, localized blues scene of the Mississippi Delta region in the 1920s through the 1940s. With original footage from many of the locations being discussed, the narrative is woven through history as the journey progresses north into the heart of the Delta. With this film, I hope to introduce new potential fans to the Delta blues, as well as display its profound effect on modern music.

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## **Human+Nature: Motion Capture and Performing Arts**

Mariely Garcia and Allison Sawtelle  
(Theatre & Performance Media and New Media Studies)  
*Faculty Mentor:* Kristen Morgan

Human+Nature is a demonstration of a project completed in the motion capture lab. It is a collaboration between a new media artist, Mariely Garcia, and a dancer, Allison Sawtelle. This is a visual animation project that used motion capture to record interpretations of the movement of animals and plants, expressing similarities and connections between humans and wildlife. Mariely captured Allison's interpretations of nature with an 8-camera motion capture system, located in the KPE Lab. The processed capture data was then used to create ""skeletons"" which were animated in the design program Blender. Music and a voiceover of poems about nature completed the mood of the final video. In this demonstration, we will show students the process of how the motion capture data was recorded along with how it was cleaned + exported. We will then show how it was imported into Blender and placed on the ""skeletons"". Finally, we will display the end results of the models once the motion capture data was placed onto them."

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## **Project Genesis**

Melody LaCombe and Seth Richards  
(Theater & Performance Media)  
*Faculty Mentor:* Brian Day

For this project we were assigned a nonprofit organization based in Willimantic. Our task was to work with them by creating promotional videos. Because they are a non-profit, they usually are limited on a marketing budget. This project allowed us to provide a much-needed service to an in



need organization. Melody and I had the privilege of working with Project Genesis. A non-profit seeking to help those living with a disability. They offer life mentors, job coaches, and other care. We created a total of four videos that all serve a different purpose. We made a Recruitment video that aimed to make people of aware of what Project Genesis does and how you can be involved. A General awareness video that was geared towards those who may be in need of Project Genesis' services. Our last two videos were testimonials. We heard from to amazing people who currently are with Project Genesis, they tell us their story and the impact Project Genesis has made on them.

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### **ETVNews & ETVSports: Live Studio & Live Field Television Production at Eastern**

Alexis Nimetz, Ceili Roberts, Johanna Lasbury, Fernando Jeronimo, Jesse Mayreis, and Zachary Doty

(Communication)

*Faculty Mentor:* Andrew Utterback

ETVNews produces live 30-minute newscasts every Thursday evening from the TV studio in the Communication Building. ETVSports produces livestream coverage of every athletic event at Eastern. Join us for screenings and Q&A with the student producers and directors!

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## Poster Abstracts

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### **How Does BUS 492 Departmental Internship Class Help Me Gain Employability Skills?**

Allison Arling  
(Business Administration)  
*Faculty Mentor:* Fatma Pakdil

This poster presentation demonstrates how BUS 492 Departmental Internship class provides undergraduate students with an opportunity to engage in research and teaching assistantship positions. The opportunities provided in this course are numerous and help students with their future in the business world. This semester, the course focused on researching and analyzing scholarly articles in digital databases on a variety of topics, including Patient Safety Prioritization and Multicriteria Decision Making (MCDM) methods. Other opportunities included being a tutor for OSC 260 Operations Management class and assisting with grading assignments for the class. The BUS 492 Departmental Internship along with Operations Management tutoring were two opportunities that encouraged students to expand their knowledge within the business field and to continue working towards a future in business. During the semester, students have gained experience that they are able to practice on their own, but also that they are able to express on their resumes for future employers. This experience will help them improve their employability skills for professional career and other academic skills that will foster their graduate degree program endeavor for their academic career.

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### **Ground and Drone Photogrammetric Modelling of Selected Shorelines on Block Island**

Emma Bean and Olivia Gentile  
(Environmental Earth Science)  
*Faculty Mentors:* Drew Hyatt and Bryan Oakley

We summarize research and practicum coursework that introduced ground and drone digital photogrammetry (PG) used to construct 3D point cloud models of Block Island coastlines and elsewhere. These models yield detailed topographic data that supports visualization, interpretation, analysis, and measurement of change caused by storms, slope processes, and waves. PG involved capturing well focused overlapping images using a tripod mounted DSLR camera and/or a mission planned Mavic 2 Pro drone. We used Metashape software to align images, identify tie points present in multiple images, remove low quality points, and generate a dense cloud with millions of X-Y-Z points. Trimmed dense clouds were used to generate colorized meshes that were transformed to real world coordinates using GPS measured targets. Completed models were used to generate digital elevation models and orthophoto mosaic data files for change detection analysis in ArcGIS and Cloud Compare. These findings were compared with historical LiDAR and Google Earth (GE) imagery for Clayhead and Grace's Point. Coastal retreat has been influenced by gullying and wave runup. GE imagery also displays significant erosion caused by superstorm Sandy in 2012. Finally,

mesh data were used to 3D print selected shoreline features using Meshlab, Blender, and Makerbot software/hardware. This experience introduced us to new 3D modelling techniques that are increasingly used to study eroding coastlines.

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### **Do Virtual Reality Tours Enhance Motivations to Attend a Sporting Event?**

Meghan Bergeron

(Business Administration)

*Faculty Mentor:* Gregory Kane

Due to the global pandemic, travel and distance restrictions have made attending sporting events, for a time, extremely difficult or impossible. In the past, “virtual tours” were often videos that showcased specific highlights, filmed with low-quality cameras, and contained awkward or inauthentic commentary. However, with 360-degree photo and video capture equipment, more sophisticated and elaborate tours are possible. Virtual tours using 360-degree photos and videos have been shown to create dramatic experiences that can alter a person’s willingness to consume leisure pursuits. Evidence suggests that virtual tours will enhance the public’s connection to a sport venue and provide an opportunity for future promotional efforts. To see if virtual tours attract people to facilities, a qualitative study will be conducted. This will be done through interviews that consist of either in person, Microsoft Teams virtual meetings, or phone calls taking place in early 2023. By doing these interviews, an insight as to whether virtual tours have made a difference or if they are useless will be shown. The purpose of this study is to understand if these tours are beneficial, have influenced the sport management industry as well as the opinions of people in the field.

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### **Machine Learning Minesweeper**

Jesse Blair

(Computer Science)

*Faculty Mentor:* Sarah Tasneem

Machine Learning (ML) algorithms are like any other algorithm; they take numbers as an input, and produce numbers as an output. The way ML algorithms are able to predict weather, recognize faces, or detect objects might seem like magic, but are indeed just the results of being able to represent those concepts as numbers. This being the case, I hypothesize that it’s possible to train a Machine Learning algorithm to choose the best moves for the classic computer game “Minesweeper”. The game of Minesweeper poses a challenge for players to use logic and deduction to identify the locations of hidden mines on a grid-based game board. Although humans can use their problem-solving skills, there is a need to develop an efficient AI program that can automatically solve Minesweeper with high accuracy and speed. The objective of the present project is to develop a program that will automatically learn how to play and win Minesweeper. To accomplish this, I will be using a binary classifier from the “scikit-learn” toolkit to analyze a region of a minesweeper board. The classifier will determine whether the center of the region in question contains a mine or not.

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## **Training Neural Networks with 3D Models**

Jesse C Blair

(Computer Science)

*Faculty Mentor:* Garrett Dancik

Computer Vision is a field in which computer systems extract information from images in a way that resembles how a human would. Image Classification, the discerning of the contents of an image, and Object Detection, which also identifies the location of said content inside an image, are major tasks in this field. Both of these tasks utilize Convolutional Neural Networks, which require a large amount of input images to train an accurate classifier or detector. The collection of large amounts of images may be difficult, so the ability to create usable images with software would be a boon. In my project I am using the 3D creation suite “Blender” to create input datasets for TensorFlow’s CNN module. Focus is being placed on finding the optimal parameters and modifications to either the 3d scene in blender or the resulting image in order to create the most accurate object detector.

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## **Classification Models and PCA on Spotify Top Songs**

Elana Bray, Elizabeth Bartoshevich, Marissa Rusczyk, and Connor Scully

(Mathematical Sciences)

*Faculty Mentor:* Chantal Larose

In our project, we examine a dataset of information about the top 10,000 songs on Spotify, using both a Neural Network and a Naïve Bayes classification model and then comparing the results. The dataset includes a variety of features including song title, days since release, total number of streams, and the number of times each song was in the top 10. Both models achieve high accuracy in predicting which songs will be the most successful, and we explore the impact of dimensionality on these models, by performing principal component analysis on the data before recreating the models and comparing all four. From this, we determine the effectiveness of dimension reduction for predicting song success on Spotify.

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## **When There Were Monsters: The Depiction of Sea Monsters on Maps in Early Modern Europe and How They Reflect Social and Cultural Change**

Chloe Brzoska

(History)

*Faculty Mentor:* Scott Moore

Today, maps with sea monsters are usually nothing more than a visual aid in a fantasy novel. In the early days of European exploration, sea monsters were more than this. In a time when science and exploration were still developing, the ocean’s animals were seen as monstrosities. Many believed sea monsters were real or viewed them as representative of the changes society was experiencing. Monsters symbolized the idea of the unknown, as well as the opportunity and wonder created by European discovery. The monstrous was not yet removed from the scientific, nor the reality from the fictional. This contrast leads to a wealth of insight into the changing climate of European

culture. Maps by European cartographers from the 15th to 18th century depicting both Northern Europe and the sea monsters surrounding it are ideal for understanding one of the most tumultuous times in European history regarding shifts in society and how Europeans imagined the world. The social and cultural changes occurring in Europe not only affected where map makers put sea monsters, but also the way they depicted them. This fact makes these creatures an insightful lens into Europe's advancements towards modernity and a source of historical and cultural commentary.

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### **Review of Rehabilitation Program Outcomes for Improvements in Functional Capabilities of Older Adults with Hip Fractures or Acetabular Labral Tears Requiring Total Hip Arthroplasties**

Ashlee Cardin

(Health Sciences)

*Faculty Mentor:* Paul K. Canavan

Many individuals receive total hip arthroplasty (THA) surgery due to osteoporosis, falling, and joint degeneration. Acetabular Labral tears can occur with pivoting (Figure 1). Mortality rates one year after having THA can be as high as 28% due to a lack of post-operative functionality. Currently there is no standardized evidence-based rehabilitation program following a THA surgical procedure even though the frequency of hip surgeries continues to rise with aging population. The goal of the research is to identify evidence-based rehabilitation practices to return functional capabilities to individuals following THA. Functional outcome measurements include the sit to stand, timed up and go (TUG) tests. Typical post operative deficits include range of motion (ROM), strength, and balance. Weight bearing ability post operatively is patient dependent and can occur immediately. Gait training can improve the TUG scores and patient independence. Leg press and abductor cable pulls can increase strength to improve functional activities (Figure 2). Balance training can help prevent falling in the future. Beginning rehabilitation on day one post operation improves functional outcomes for individuals. Continuous patient education enhances compliance and self-efficacy. Progressive rehabilitation is key to better functioning and independence at home.

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### **An Examination of American Wineries: California Wineries Versus the Rest**

Chloe Chenot

(Business Administration)

*Faculty Mentor:* Emiliano Villanueva

The research project titled "A firm-level study of the global wine industry" was conducted by Dr. Villanueva, in conjunction with various Universities globally. The same survey sent to wineries generated data from 23 wine-producing countries, including the United States. Using the available data for the US, my goal was defining a profile of wineries in the United States, identifying their similarities and differences. 5,533 wineries were contacted around the 50 states of the US, proportionally to their number by state. Since around half of American wineries are in California, the sample was divided into two: California (87), and the remaining states in the US (105); survey response was around 5% of the total identified American wineries. Preliminary results show California wineries have a greater advantage, as they have more industry experience and permanent

employees, grow more grapes on site, have larger wineries, sell more premium wines, specialize in winemaking services, and have higher volumes of exports and production. Wineries on other states focus more on value and budget friendly wines, have increased differentiation in services aside from winemaking, i.e. wine tourism, and have fewer exporting experience. Despite these differences, there are commonalities, such as similar equipment, wine types produced, and business formats.

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### **How Social Media Influencers Effect Audience Attitudes**

Nicholas Chiacchia

(Communication)

*Faculty Mentor:* Michelle Michael

Social media influencers (SMIs) are known to possess much power online, using their unique types of content to almost effortlessly captivate their audiences. These ambitious online personalities have become wildly popular in recent years, providing entertainment on nearly any topic imaginable. Especially successful influencers often accumulate millions of followers and billions of total views from their large online followings. Their ability to send messages to large audiences across a variety of different platforms often attracts the attention of outside groups. SMIs regularly partner with companies and organizations to endorse or promote certain products or services to large numbers of viewers in a “one-to-many” fashion. Sponsored content has become a dependable tool in the realm of advertising, allowing SMIs to use certain communication strategies in order to impact their audience’s attitudes. A thorough meta-analysis of various studies was conducted in order to determine how SMIs utilize the concepts of selective exposure, selective retention, and their roles as opinion leaders to command the interest and alter purchase intentions of their audiences. Competent influencers use these communication concepts to their benefit, gaining the views and audience response necessary to uphold their online reputation while simultaneously affecting the purchase intentions of their audiences.

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### **The Association Between Well-Being and Housing Status Amongst College Students**

Shelby Chiangi, Amia Jolie, and Vijaya Rambertab

(Sociology, Anthropology, Criminology, and Social Work)

*Faculty Mentor:* Sarah Nightingale

Our research study looks to show the association between the well-being of Eastern Connecticut Community College students, and if living on or off campus affects their mental well-being. To collect data we created a QR code that we provided to students around campus and posted on our personal social media platforms. After collecting our findings we took the input from our Google survey document and uploaded it into SPSS to analyze our data. Our results showed that there was a slight increase in the Mental well-being of students who lived off the Eastern campus than students who lived on campus.

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## **Media's Effect on Public Opinion of Police**

Ethan Cleary  
(Communication)

*Faculty Mentor:* Michelle Michael

Media, including traditional types of media such as print news or radio, and social media, plays a prominent role in shaping the public's opinion toward police. This paper analyzes multiple ways in which media is responsible for this, and to what extent it affects people. In similar research articles, evidence portrayed to support claims is one-sided and does not capture the broader scheme of media's effects. This research contains a literature review of multiple peer-reviewed scholarly articles and evaluates them in an unbiased manner. In conclusion, media affects public opinion due to multiple different mass-communication theories, two of which are framing theory and cultivation theory. Media's effect on public opinion also has varying levels of effectiveness based on different factors such as cultural differences, where a person lives, and how media literate a person may be.

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## **Academic Majors and Associations to Immigration Perceptions**

Lily Cotto, Drea Bustamante, Brittany Vaughn, and Natalie Nilsson  
(Sociology, Anthropology, Criminology, and Social Work)

*Faculty Mentor:* Sarah Nightingale

This study is about the opinions and perceptions that Eastern students have on the topic of immigration, and how academic majors (Arts & Science vs. Professional Studies & Education) have an impact on these perceptions. We received 97 eligible survey responses, and recruited these students in the student center, as well as social media. Students who participated in the survey were asked 13 questions that measured their perceptions of immigration. We found that there is not a significant difference between the opinions and perceptions on immigration for Professional Studies and Education majors versus Arts & Sciences majors at Eastern. While there were some statistically significant results, many of the results are very progressive, even with differences of majors. It is essential in social work to understand individual experiences through research to see how immigration is viewed throughout the community. Immigration perceptions and opinions have a large impact on the policies that are made regarding the topic, and these perceptions are impacted by many factors. Perceptions can differ depending on factors such as age, political parties, and residence, and these perceptions influence the climate and atmosphere regarding immigration. More qualitative research can be done to help better determine the relationship between academic majors and student's perceptions on immigration.

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## **Knowledge of Sexual Consent Based on Gender Identity**

Madelyn Currier, Victoria Davis, and Madison Anderson  
(Sociology, Anthropology, Criminology, and Social Work)

*Faculty Mentor:* Sarah Nightingale

The study investigated whether gender identity of college students was associated with understanding sexual consent. To recruit participants to take the survey, there was a QR code, along

with emailing students in the social work program, and going up to students in the student center or outside walking. When asking students to take the survey, they filled out the questionnaire with two open ended questions about the participants knowledge of consent and scenario-based questions. Chi Square analysis was used to analyze our data. There was no significance between gender identity and knowledge of consent. Our qualitative responses had various themes including sarcasm, verbal consent, and issue of sobriety and consent.

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### **The Racial Presentation of Second-Generation Iranian Americans**

Safa Danesh

(Sociology)

*Faculty Mentor:* Kim Dugan

This study follows the lived experiences of second-generation Iranian Americans and their experience with presenting their race to others. Data is collected from qualitative interviews with five Iranian American college students residing on the East Coast. Each interview is centered around if, how, and when a participant racially presents themselves as belonging to dominant American society. Results from each interview were transcribed, coded, and analyzed for similarities and differences between participants' themes of experiences. The information gathered adds to the previous scholarship regarding Iranians and their racial classification as well as their assimilation practices in the US.

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### **How has Music been Used in the African American Community to Support Social Movements?**

Joseph DeCarlo

(Communication)

*Faculty Mentor:* Michelle Michael

The African American community has a long history of oppression in the United States and throughout all of it, music has been used to fight for change and band together as a community. Previous papers have gone into detail music being used to fight oppression but I have decided to specifically focus on the African American community due to their rich history and influence on music. After doing much research in different forms of literature, I have found plenty of evidence on this topic. There are countless instances of different music being used by the African American community as a voice for social issues and they are all done in unique ways.

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### **Make America Read Again: The Ongoing Fight Against Banning Books**

Riley Duhamel and Jessica Wlochowski

(English)

*Faculty Mentors:* Susannah Richards and Miriam Chirico



Reading literature is a way for students to learn that leads to deeper, more meaningful discussions. As Rudine Sims Bishop (1990) said, “books are mirrors, windows, and sliding glass doors”. Books can be a reflection of oneself or putting oneself in someone else's shoes. However, each day more and more books are being removed from classroom shelves. Between 2021 and 2022 banning and censorship affected 138 school districts in 32 states according to PEN America, an organization that focuses on ensuring that everyone has freedom to create literature, to convey information and express personal views and ideas (New report: 2,500+ book bans across 32 states during 2021-22 school year, 2022). A large percentage of the challenged books have themes of race, gender, sexuality, and inclusivity. Many of them are written by authors of color, women, and or by those who are members of the LGBTQ+ community. For this project our goal was to educate ourselves and teachers, students, staff, and colleagues about the importance of inclusive and diverse literature in schools as well as everyday life. We examined the issues related to banning and censorship by reviewing and examining the history of banned books as well as its impact for future education. Banning and censorship is a versatile issue in education. Why is everyone afraid of the power of knowledge that books can provide when much worse is happening in the world?

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### **The Relationship Between Living with Someone with Substance Use Disorder and Personal Substance Use Amongst Adults 21+**

Molly Finnegan, James Abele, and Samuel Jordan  
(Sociology, Anthropology, Criminology, and Social Work)  
*Faculty Mentor:* Sarah Nightingale

Our research was dedicated to finding a relationship between living with someone with substance use disorder (SUD) and developing one's own personal issues with substances. We surveyed 102 participants ages 21-45 through social media and on campus recruiting, 45 of which received a CAGE score, a tool used for substance abuse screening. Our findings indicated that there is no statistically significant relationship between living with someone with SUD and developing SUD.

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### **Molecular Binding Predictions for Multi-Target Drug Compounds Using Machine Learning and Deep Learning**

Luis Flores-Gómez, Djenerly Massena  
(Physical Sciences)  
*Faculty Mentor:* Kedan He

Compounds that interact ‘pseudo-specifically’ with multiple biological macromolecules are known as polypharmacological drugs. Many controlled substances are polypharmacological drugs that interact with multiple targets in the central nervous system, making the systematic classification of these illegal substances a challenging task. Furthermore, polypharmacological drugs are often required for effective therapeutic intervention in multifactorial pathologies such as cancer or neurodegenerative diseases, such as Alzheimer disease. Machine learning models can analyze large amounts of molecular data and learn patterns to accurately predict the binding affinity between drug compounds and biological targets. The pharmacological affinity fingerprint (Ph-fp) is a binary vector consisting of a compound’s activity against a list of molecular targets reported to be responsible for the

pharmacological effects of new psychoactive substance (NPS). Ph-fp was constructed by the Random Forest classification models trained using bioactivity data from the ChEMBL database. It is then used in unsupervised clustering analysis to categorize a set of NPS compounds into the “four-category” systems of stimulants, cannabinoids, hallucinogens, and depressants. Our study showed that this data-driven Ph-fp is a promising tool for screening potential emerging NPS compounds. However, the overall complexity of the virtual screening problem has limited the impact of machine learning in drug discovery. To achieve greater predictive power, deep learning provides a flexible paradigm for synthesizing large amounts of data into predictive models. Hence, we aim to develop improved multitask deep neural network (MTDNN) models to identify novel multi-target drugs for Alzheimer’s disease.

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### **CRISPR Modification of the fath-1 Gene in C. elegans to Model Human Spastic Paraplegia**

Luis Flores-Gomez and Rachel Ulitsch

(Biology)

*Faculty Mentor:* Amy C. Groth

The nematode *C. elegans* is a model organism used to study genes that have homologs in humans. The *fath-1* gene in *C. elegans* codes for a fatty acid 2-hydroxylase and is an orthologue of the human FA2H gene. Mutations in the human gene lead to a form of hereditary spastic paraplegia (HSP). We are utilizing microinjection and a co-CRISPR gene modification strategy to create a mutant version of the *fath-1* gene containing an early stop codon and to modify the *dpy-10* gene as a phenotypic marker. Of 114 worms that were injected, 62 survived. Their offspring were screened for the rolling phenotype, but no rollers were identified. We have initiated a modified strategy utilizing plasmid delivery of the dominant *rol-6* gene as a phenotypic marker for positive injections, so that all of the injected CRISPR ribonucleoprotein complexes will be targeting the *fath-1* gene. Successful creation of a mutant *fath-1* strain will allow us to explore its role in various genetic and metabolic pathways and to test potential drug treatments.

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### **What Causes Political Extremism? Donald Trump and the Case of Political Opportunity**

Kyle Garneau

(Political Science)

*Faculty Mentor:* Courtney Broschius

Violent extremism from across the political spectrum has been on the rise since 2015, threatening public safety and the stability of U.S. democracy. According to the Washington Post, 291 Republican election deniers were on the ballot for 2022. This paper examines the rise of the environment that brought about election denialism and the violence it caused on January 6th, 2021. Using process tracing, this paper analyzes the events leading up to it that legitimized political violence in the US Capitol. Growing diversity and economic effects of globalization exacerbated underlying racial and economic cleavages. This, in turn created a growth of extremist sentiment in the US. The election of Donald Trump and the rhetoric he uses while in office created legitimacy around political extremism, election denialism, and inflammatory language. This is crucial to study because the events of January 6th were not sporadic, nor are they a thing of the past. Without proper

acknowledgement and steps to combat extremism and polarization, political violence will continue to be a regular part of American politics.

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### **Investigating Biomechanics of a Golf Swing Relative to Shot Metrics to Promote Accuracy and Consistent Performance**

Alfredo Guadalupe, Megan Gabriel, and Alec Lachniet  
(Health Sciences)

*Faculty Mentor:* Paul K. Canavan

It has been estimated that around 60 million individuals around the world play golf. The challenge for a golf player is to develop a consistent optimal swing pattern which has many chances for errors to occur. There has been little known research that has included both Rapsodo technology and a motion analysis suit to evaluate golfer's shot performance. The purpose of this study was to measure both the performance of the golfer's motion, as well as the outcome of the swing using the Rapsodo system. 10 ECSU Collegiate male golfers participated in the study. Participants wore the Xsens motion analysis suit and performed 10 swings with a 5-iron and a driver. Launch angle, launch direction, total distance, club speed, ball speed, and smash factor and motion analysis were recorded. A Pearson correlation was used for analysis. No significant correlation was found between launch direction and smash factor ( $r = -.118$ ,  $p = .139$  for the driver,  $r = -.031$ ,  $p = .386$  for the 5-iron). Motion analysis and values related to the club and ball related to shot accuracy could help golfers improve their performance.

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### **Fractional and Sequential Extraction, Purification, and Analysis of Pharmacoactive Plant Extracts**

Nana-Boatema Hansen  
(Health Sciences)

*Faculty Mentor:* Yaw Nsiah

Plants have always been used to treat certain ailments and diseases. Practices that are still in use today. Plants such as the Oil and Salt tree and Mahogany bark, originating from the west coast of Africa (Ghana), are claimed to be used by the locals for their known anti-malarial, anti-inflammatory, wound healing, and analgesic properties. This thesis conducted a survey of the aforementioned plants along with others to find extracted compounds linked to the antimicrobial activity that the plants exhibit. The selected plants were screened using extraction, purification methods, and molecular methods (NMR) to classify the compounds found. The Oil and Salt tree extract showed obvious signs of antimicrobial activity. Those antimicrobial compounds are recommended for future additional research using laboratory animals and research to clarify chemical structures and mechanisms of action for clinical use.

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## **Connecticut Museums**

Olivia Hermonot  
(Art and Art History)  
*Faculty Mentor:* Soojin Kim

This infographic is intended to inform the viewer of different museums around Connecticut. The aim for this infographic is to be quick and easy for the viewer to read and understand.

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## **Characterization of Human Urate Transporter Genes in a Conditionally Immortalized Human Kidney Proximal Tubule Cell Line (ciPTECs)**

Juliette Hogan  
(Health Sciences)  
*Faculty Mentor:* Amy Bataille

Urate is a by-product of purine metabolism in humans. It is a potent antioxidant, protecting our cells' DNA from free radicals. High blood urate is associated with diseases such as gout, metabolic syndrome, hypertension, and cardiovascular disease. Low blood urate is associated with neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, and multiple sclerosis. Urate homeostasis is largely achieved by transporter proteins in the kidney. These transporter proteins are encoded by genes. Previous studies have identified gene variants of each urate transporter, which can impact an individual's urate excretion and susceptibility to hypo- or hyperuricemia. The purpose of this study was to examine the genetic sequences of relevant human urate transporters in a human proximal tubule epithelial cell line (ciPTEC) to determine the presence of any genetic variants. The results of this study show that the ciPTEC cell line has two urate transporter gene variants, which are both associated with hyperuricemia. The effect of these variants on the ability of the cell line to transport urate remains to be tested. As ciPTEC DNA contains variants in genes that are responsible for urate handling, this cell line may not be the most accurate model for individuals with normal urate handling.

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## **Decoding the Genetics of Cannabis: Investigating Mendelian Inheritance of the Autoflowering Trait**

David Jaramillo  
(Biology)  
*Faculty Mentor:* Bryan Connolly

This study explored the heritability of the autoflowering phenotype of cannabis. The current literature suggests that autoflowering is recessive to the more common photoperiod trait. Photoperiod plants respond to light changes in their environment, while autoflowering plants flower based on age. First and second generation hybrids were made between photoperiod and autoflowering cannabis strains, backcross lines were also created. The number of progeny were counted and compared to standard Mendelian ratios and analyzed using a chi-squared test. Ratios of

some lines deviated from typical simple inheritance ratios therefore this study challenges the commonly held belief that photoperiod is completely dominant over the autoflowering trait.

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### **Thinspo' and Internet Subcultures: A Content Analysis of Eugenia Cooney's Social Media Comments**

Grace Jenkins, Shea Mulhare, and Alana Morrell  
(Sociology, Anthropology, Criminology, and Social Work)  
*Faculty Mento:* Megan Stanton

People in the United States spend roughly 2 hours on social media daily. Meaning, people could experience a variety of online subcultures. “Thinspo” is a type of content for promoting eating disorders. This is a concern given the high prevalence of eating disorders in the U.S. Eugenia Cooney has found popularity on social media, with frequent comments on her emaciated body and presumed eating disorder. Research question: are there types of engagement with her content? What are the themes of these actors? Is there evidence of the impact of those interactions? These were explored through an in-depth case study of Cooney’s social media commenters. Comments were collected until theoretical saturation was reached (N=1,194 comments). Comments were categorized into one or more of 5 themes including: content (47.6%), concern (23.6%), judgmental (14.3%), conspiracy (7.7%), and blaming (6.8%). Themes are further defined in the poster. High volume of content comments indicated a comment subculture: people showing support without discussing her body. Other commenters verbalized concern, illustrating that people do not always use anonymity for hateful purposes. Future research should examine the potential impact of supportive comments on viewers of Eugenia Cooney’s content who may be struggling with eating disorders.

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### **Classification of Average Internet Access Costs Around the World**

Aretha Kassegrin  
(Mathematical Sciences)  
*Faculty Mentor:* Chantal Larose

Can we determine how much the average person pays for internet access in other countries? In these times of COVID most people experience work or school at home, which means that we need to be connected to the internet. What financial hardship does that place on people globally? This project looks at different factors that may influence the average cost of 1 GB across many countries worldwide. Classification and regression tree models classify countries’ internet access costs with 92% accuracy, an increase in accuracy of 64% over baseline.

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### **The Effects of Mass Media on Climate Awareness**

Andrea Kathe  
(Communication)  
*Faculty Mentor:* Michelle Michael

This paper examines the role of mass media on the public's awareness of climate change and how it affects public opinion on the severity of climate issues plaguing our planet. This study is important because the severity of global climate change is raising. However, the public's understanding of whether this threat is justified is becoming cynical and distrustful. This paper is a literature review that summarizes scholarly research found among databases surrounding mass media, the spread of information, and the science that backs up climate change. The results of this research are that the primary role mass media has within the scope of climate change is the dissemination of information. Future exploration should further investigate how the audience reacts and use this information.

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### **Examining People's Willingness to Provide Personal Health Data for Personalized Medicine**

Eleni Alexandra Katsarakes  
(Business Administration)  
*Faculty Mentor:* Sukeshini Grandhi

Predictive, personalized, preventive, and participatory (P4 medicine) has the potential to change lives by enabling individualized wellness using personal genomic information and health data. This potential remains untapped, however, as the development of P4 medicine data models requires the collection of genomic and longitudinal health data from billions of people. This research aims to understand what motivates or demotivates people to share three types of biomedical data: illness reports, blood samples, and DNA sequence in order to facilitate the development of comprehensive P4 medicine data models. This study reports preliminary data analysis of people's willingness/unwillingness, as well as the underlying reasons based on data 981 qualitative responses from 1,237 participants.

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### **Comparing AI Assistants for Viability in Assisting with XML/XSLT Code Development**

Christie Kenyon  
(Computer Science)  
*Faculty Mentor:* Garrett M. Dancik

Artificial Intelligence (AI) is a rapidly advancing technology in computer science. It has the potential to transform nearly all aspects of the digital world, and this includes the potential to assist in code development. XML/XSLT are important markup/styling languages used for data management in a data-driven world. While there have been several studies involving the testing of AI assistants in other programming languages, there is a dearth of research in testing AI for generating XML/XSLT, despite its potential to drastically reduce authoring and development time. The objective of this research is to assess the XML/XSLT code generated by four different AI assistants: ChatGPT, GitHub Copilot, YouCode, and Notion AI, to give XML/XSLT developers insight into how useful such assistants can be to both authors and developers. We run a series of scripts through each of the AI assistants to generate both XML and XSLT code, after which we run the AI assistants' output through a processor to generate PDFs. The performance of each assistant will be presented and discussed.

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## **Practical Implementation of Spectral Modeling Synthesis on a GPU**

Riley Knybel

(Computer Science)

*Faculty Mentor:* Garrett Dancik

Synthesizers are widely used in modern music. However, newer algorithms used for software synthesizers can be too computationally intensive for a CPU. Additive synthesis can benefit greatly from hardware acceleration using the GPU, but there is no current research that tests the performance of GPU synthesizers in a music production workflow. The objective of this research is to accelerate a spectral modeling synthesizer using the GPU within a VST3 audio plugin and compare performance with previous work from SCREAM Lab in 2010 [Tsai et al, 2010, Proc. of the 13th Int. Conference on Digital Audio Effects (DAFx-10)]. The availability of GPU-accelerated audio plugins is limited and creating a synthesizer plugin that takes advantage of general-purpose GPU computations will improve musical workflows. A spectral modeling synthesizer plugin will be created using the JUCE framework, the NVIDIA CUDA framework, and the CUDA kernels provided in the SCREAM lab paper. The results of performance testing will be compared with those of the SCREAM Lab paper. GPU-accelerated audio synthesis will be demonstrated and the practicality of GPU-accelerated audio synthesis plugins in music production will be discussed.

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## **Social Media And Its Effects on The Transgender Community**

Hanna Lasbury

(Communication)

*Faculty Mentor:* Michelle Michael

Social Media and Its Effects on the Transgender Community. Social Media is becoming a prevalent medium outlet for the younger generations. Along with that society is constantly changing and becoming more diverse as people are learning to discover more about themselves and the world. with the combination of these two, it brings the question of how does [social] media affect society? Especially how is it influencing a specific community. In the LGBTQ, closely looking at the transgender population there have been recent studies on their mental health being affected by this new, deeply intimate media where all aspects of one's life are constantly on display. this ultimately has an influence on many aspects of these individuals' lives. Methods that have been examined to determine the overall effect on the community were looked at through multiple meta-analysis studies. Determining the final result of social media having a direct correlation to affecting mental health in the transgender community.

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## **Phenotypic Characterization and Analysis of Tnt1 Insertion Mutations in Mutants Defective in Symbiotic Nitrogen Fixation in the Model Legume Plant *Medicago truncatula***

Anne Le

(Biology)

*Faculty Mentor:* Vijaykumar Veerappan

Legume plants form a symbiosis with the soil bacteria rhizobia and convert atmospheric nitrogen into biologically available ammonia by symbiotic nitrogen fixation (SNF). This is important because agriculture depends on synthetic fertilizers as a major source of nitrogen. Synthetic fertilizer production depends on fossil fuels which is expensive and not sustainable. To discover novel genes that control SNF, I am characterizing four *Medicago truncatula* Tnt1 retrotransposon insertion mutants defective in SNF including NFxxx44, NFxxx18, NFxxx06 and NFxxx39. Wild-type and mutant plants were grown on aeroponic system in the absence of nitrogen and phenotypes were characterized. WT shoots are green with roots containing large ovoid pink nodules indicating efficient nitrogen fixation. All the SNF mutant plants display reddish-purple shoots with roots showing small spherical white/light pink nodules indicating deficient nitrogen fixation. Tnt1 insertions in each mutant will be identified using the *Medicago* Mutant Database. Genomic DNA sequences flanking Tnt1 insertions will be aligned to the *Medicago* genome to identify the exact locations of Tnt1 insertion mutations. Discovery of genes involved in SNF will help agriculture because farmers would use less artificial nitrogen fertilizers to grow important non-legume crops such as wheat and corn.

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### **Exploring the Impact of Social Media on Adolescent Mental Health**

Naarai Little

(Communication)

*Faculty Mentor:* Michelle Michael

In present-day society, social media platforms have emerged as a ubiquitous presence in people's lives. Yet, their impact on the mental health of adolescents, especially young individuals, is a subject that stays in large part overlooked. This paper seeks to discover the potential outcomes and issues associated with social media usage, which include tension, despair, self-esteem, and self-worth, in the mental health of adolescents. Through a review of the relevant literature, it has been found that prolonged exposure to social media can bring about quite a number of mental health issues among younger people, including tension and despair (Fardouly et al., 2019). Additionally, the impact of seeking validation online on one's mental health, self-esteem, and sense of worth has emerged as a significant concern. Research shows that common social media users among adolescents are much more likely to experience reduced self-confidence and negative frame image. This paper contends that the consequences of social media on adolescent mental health deserve more attention, especially given the seriousness of the issue of despair in contemporary society. A better understanding of the potential dangers and results related to social media use among adolescents is vital in formulating strategies to enhance their mental health and well-being.

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### **The Impact Free Will Beliefs on Punishment Attitudes**

Kas Mangual

(Psychological Science)

*Faculty Mentor:* Alita Cousins

Free will and determinism argue whether people have control over their behavior or if environmental factors help determine actions (Baum, 2017). Research shows that holding these beliefs impact moral judgement and blame (Martin et al., 2017). Culpability is used as the underlying



rationale in which the criminal justice system determines severity of criminal punishment (Koppel et al., 2018). The study surveyed 41 undergraduate students to investigate whether endorsing free will increased pro-punishment attitudes and perceived blame, and if blame increased pro-punishment attitudes. Increased in pro-punishment attitudes was associated with endorsing free will beliefs and increased levels of blame. However, free will beliefs did not impact ratings of blameworthiness. Suggesting that people with free will beliefs would harshly punish criminals and blame serves as the rationale. Yet perception of individual control associated with free will is not what drives blame. These findings have psychosocial consequences on criminal sentencing (Vardsteen & Weiner, 2021).

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### **Knowledge and Perception of Interpersonal Violence Services at Eastern**

Amanda McFarlin, Delaney Card, McKenna DeLuca  
(Sociology, Anthropology, Criminology, and Social Work)  
*Faculty Mentor:* Sarah Nightingale

Interpersonal violence is prevalent on college campuses. This study examined students at Eastern regarding their awareness and comfort level when seeking services related to interpersonal violence. Research suggests that college students are not provided with adequate awareness of services in order to seek help from officials. To conduct our research, we used a quantitative approach by asking students (residents and commuters) to complete a set of survey questions. In total, we had 107 surveys collected by convenience sampling. Of the 107 participants, 72 percent stated that they are unaware of interpersonal violence services at Eastern. Through analyzing our data using t-tests and chi-squares, our results support that particular student identities are associated with student's knowledge and comfort level of interpersonal violence services at Eastern. Our findings will hopefully inform how colleges can make services available to all students.

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### **The Association Between Substance Use and Academic Success Amongst 21+ College Students**

Hailey Messier, Sonya Pierce, and Amber Peterson  
(Sociology, Anthropology, Criminology, and Social Work)  
*Faculty Mentor:* Sarah Nightingale

The topic of this study was the exploration of association between substance use and academic productivity at the collegiate level. The method for data collection was an online survey via google forms. Based on our data, we did not find any significant correlation between substance use and academic productivity. However, we did find a significant correlation between the use of alcohol and the use of marijuana. Based on those results, we can suggest people who use alcohol are more likely to also use marijuana.

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## **The Effects of Saltwater Concentrations on the Seedling Growth of the Federally Threatened *Aeschynomene virginica* (Sensitive Joint-Vetch)**

Elisabeth Miano

(Biology)

*Faculty Mentor:* Bryan Connolly

*Aeschynomene virginica*, or Sensitive Joint-Vetch, is a federally threatened freshwater tidal legume native to the east coast of the United States (U.S Fish and Wildlife, 1992). This species occurs infrequently along the coastlines of New Jersey, Maryland, and North Carolina. It is extirpated, or locally extinct, in Pennsylvania and Delaware (Tyndall, 2011). Sensitive joint-vetch inhabits freshwater tidal to brackish wetlands, with a preference for areas with lower densities of standing vegetation due to their weak competitive abilities (Griffith et al, 2003). This species has a limited tolerance of salinity, which may contribute to the endangered status of this plant. We explored these tolerances in this study to help contribute to understanding how climate change and sea level rise will impact this plant. We experimented with salinity levels as low as 0.25%, and 0.50%, or 8.3% and 16.6% the concentration of full seawater. For this investigation, we tested the hypothesis that low salinity levels will negatively impact *A. virginica* seedling growth. It was found that water with salinity concentrations as low as 0.25% and 0.50% can have significant negative impacts on seedling growth of *A. virginica*. This is important because it demonstrates that these endangered plant populations will likely experience declines as rising sea levels increase the salinity of their freshwater tidal habitats.

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## **Over-The-Counter Drug Abuse, Misuse and the Adverse Side Effects: A Review Of Literature**

Kevin Morales

(Health Sciences)

*Faculty Mentor:* Paul K. Canavan

Over-the-counter medications (OTC) are readily and widely available to people because they are sold on shelves without the need for a medical prescription. This availability can have a benefit or be detrimental effect. OTC medications are used for a wide range of conditions, including headaches, common cold, musculoskeletal pain, allergies, and heartburn. There are some people that misuse these drugs intentionally or unintentionally. This misuse can be because of incorrect dosage, lack of knowledge, inappropriate medication use, and incorrect duration of use. The most commonly abused classes of OTC drugs are Antihistamines, Cough medicines, Codeine, Analgesics and Decongestants. This misuse/abuse can cause long term negative health side effects. The reasons why misuse and abuse happen are because of misinformation, ease of access, chronic illnesses, opioid dependence, and recreational purposes. The groups of people that were found to be at highest risk were children and teenagers aged 6 to 19 years old, elderly people, patients with mental illness, and dental patients. There is a need for quality information dissemination in order to reduce OTC abuse and misuse.

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## **Oral Haptic Interfaces for the Visually Impaired**

Jessica Moyher

(Health Sciences)

*Faculty Mentor:* Paul Canavan

To address the millions of individuals with blindness and visual impairments, sensory substitution devices (SSDs) have been created in order to translate one form of sensory input into a different sensory output. SSDs that stimulated larger areas of the body (such as the back, abdomen, or foot), were reduced in size to fit on the tongue. The tongue display unit (TDU) is a type of oral haptic interface that utilizes vibrotactile electrodes on the tongue, in which users can learn to interpret the stimuli and then can “see” what is being captured. The purpose of this study was to review the development of SSDs and oral haptic interfaces for the visually impaired, identify benefits and drawbacks, and determine suitable future developments. These technologies do not restore vision, but may provide a variation of sight, especially to those who do not want/cannot have eye surgery or other invasive treatments. Individualistic aspects, cost, and availability are possible flaws of the interfaces; however, with more research regarding complexity and intensity of the electrodes, transitioning to wireless devices, and exploring other areas within the oral cavity for better positioning and/or sensitivity, oral haptic interfaces may be a resource for visually impaired individuals.

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## **Generative Art With Cryptographic Hash Functions**

Nghi Nguyen

(Computer Science)

*Faculty Mentor:* Sarah Tasneem

The project explores the application of hash functions, a cryptographic primitive in generative art. The generative engine comprises three main components: seed creation, layer selection, and background generation. User input is obtained as strings and hashed using the Keccak256 function, a modern and secure hash function, producing a 256-bit integer that serves as the root seed for the generation process. The second component utilizes the seed to select layers randomly and combine them on a blank canvas. Each layer demonstrates a different aspect of the character in the avatar image, such as clothing, styles, and accessories. The last step is creating a background utilizing Scalable Vector Graphics (SVG) to generate shapes and colors randomly based on predefined algorithms. Since SVG documents are strings rather than pixels, the random generation process is simplified. The project also includes a REST API endpoint that enables users to request artwork of varying sizes, palettes, and background colors. In conclusion, the deterministic nature of hash functions enables the generation of a distinct and reliable digital identity avatar for every input, as demonstrated by our research.

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## **Creation of Novel Zebrafish Transgenics to Monitor Preneoplastic and Immune Cell Interactions**

Stella Ofei and Michaela Rush  
(Biology)  
*Faculty Mentor:* Derek W. Laux

It is estimated that approximately 10 million people are lost every year worldwide to cancer. Despite its prevalence, many questions remain unanswered about how a single preneoplastic cell (PNC) develops into a mature tumor and the interactions with host cells that facilitate this development. Innate immune cells interact with PNCs and have been shown to provide trophic signals. However, how the underlying mutation or cell type of the cancer influences this interaction is still unknown. Furthermore, although PNCs have been shown to physically interact with immune cells, whether this physical interaction is confined to the membrane or includes cytoplasmic transfer remains unsolved. Here, we have created novel zebrafish transgenics, Tg (mitfa: BRAFV600E-poly A), Tg (mitfa: P16-poly A), Tg (Krt4: HRasG12V-poly A) to examine whether different cell types or mutations elicit altered immune cell behaviors. In addition, we have utilized gateway recombination to create Tg (mitfa: Cre recombinase-poly A) and Tg (Mfap4: Cre reporter-poly A) embryos. Using these lines will allow us to examine cytoplasmic transfer between PNCs and innate immune cells. In the future, findings from this project could help develop new molecular-mediated therapies that may impact personalized medicine for cancer patients.

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## **Social Media and Its Psychological Impact on Athletes**

Michael Parzych  
(Communication)  
*Faculty Mentor:* Michelle Michael

Social media is a rapidly growing form of media and is widely used in the sports media world today. However, something that is not usually talked about is the psychological impact that social media has on athletes. Most research goes over the basics of these psychological impacts but doesn't touch upon the deeper psychological impacts of social media, such as an athlete's effects on a team, as well as a fan's involvement with a sport based on an athlete's performance after social media use. In this research paper, there is a diverse plethora of research studies used, which display the many positive effects of social media on athletes, the negative effects of social media on athletes, and how this affects the general landscape of sports overall. The results show that social media has a greater psychological impact than most people think, as social media can really manipulate every move of an athlete's career. This can be a good or bad thing for an athlete, as social media can be a way to motivate an athlete or can mentally crush an athlete, and that is enough to show the power of the social media world.

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## **Scenic Design Drawings of "The Nether" and "The 25th Annual Putnam County Spelling Bee"**

Ethan Pervere  
(Theater & Performance Media)  
*Faculty Mentor:* Kristen Morgan

This poster presentation will detail the process of Assistant Scenic Design for two Theatre & Performance Media main stage productions: "The Nether" by Jennifer Haley and "The 25th Annual Putnam County Spelling Bee" by Rachel Sheinkin. The production of "The Nether" features a compelling virtual world that is more popular than the physical world. "The 25th Annual Putnam County Spelling Bee" showcases a vibrant, colorful set that captures the essence of the story's playful tone. Both productions were designed by Professor Kristen Morgan; my duties as Assistant Scenic Designer included developing a packet of technical drafting for the sets in AutoCAD. These drawings contain the details that are needed by the Technical Director to construct the physical set. My work as Assistant Scenic Designer demonstrates both artistic and technical skill and my collaboration with the rest of the production team. Featured in this presentation are complete AutoCAD drafting packets as well as other research.

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## **The Association between Academic Success and Parental Divorce**

Haley Picard, Katherine Barner, and Daria Bacchiocchi  
(Sociology, Anthropology, Criminology, and Social Work)  
*Faculty Mentor:* Sarah Nightingale

This research study incorporates academic success and divorced parents and the association between the two. The data was collected through an online survey given to Eastern Connecticut State University students above the age of 18. The results of 105 participants demonstrated that having divorced parents had an impact on procrastination. Divorce does not have an impact on GPA and other academic factors. Additionally, participants shared that divorced parent affected them emotionally and cognitively. The research had also shown that participants had felt that divorced parents had changed their view of themselves or the way they thought of their parents.

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## **How Media Contributes to Gendered narratives of marijuana use**

Talya Pitruzzello  
(Communication)  
*Faculty Mentor:* Michelle Michael

Between the different genders, there have been constant differences that are put into play through stereotypes. Every person has dealt with gender stereotypes at one point in their life in different ways. This is something people unconsciously do all the time. There can be small gender differences to big differences. Marijuana is a controversial topic that many people have strong opinions on. Gendered narratives and marijuana use are two things that relate to each other. There is a clear difference between the genders with marijuana use. This includes different views on the drug

depending on who is using it. Also, depending on the gender, there are different personal opinions that show the majority of one gender. For example, there are more females than males that prefer not to use marijuana and do not enjoy it. More males regularly use and are for marijuana. One major question is where did these stereotypes stem from? Media and the impact it can have on someone is an outlet these stereotypes can come from. This paper will dive into these aspects and further the knowledge on this topic.

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### **Understanding Neutrophil Polarity in Response to Cytokines Within the Tumor Microenvironment**

Alexis Rafael-Coli and Sara DiVasto  
(Biology)  
*Faculty Mentor:* Derek Laux

Tumors develop from the sustained and rapid proliferation of a single cell. The development of this single preneoplastic cell (PNC) into a full-blown tumor requires a multitude of interactions with cells of the host. Innate immune cells, neutrophils and macrophages, have been shown to have both supportive and inhibitory roles around early preneoplastic cells. This polarity of innate immune cells is influenced by the cytokine environment. However, the cytokines released by different cancer cells that support neutrophil polarity remain to be uncovered. Here, we used a zebrafish (*Danio rerio*) model and began to construct a molecular toolbox to examine the expression of various cytokines (IL-6, IL-8, and TNF $\alpha$ ) in the tumor microenvironment. To this aim, we have begun to construct digoxigenin-labeled antisense oligonucleotides against these cytokines and have constructed a transgenic zebrafish model to examine neutrophil morphology and behavior. To examine whether these cytokines skew neutrophil polarity toward more supportive phenotypes, we have generated a tissue-specific zebrafish CRISPR/Cas-9 knockout whereby we are able to knockout these cytokines in preneoplastic cells. Knowledge about the cellular pathways that alter immune cell behavior may lead to more effective cancer therapies in the future.

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### **Rise of Mental Health Concerns Among Collegiate Student Athletes**

Sarah Remillard  
(Business Administration)  
*Faculty Mentor:* Charlie Chatterton

Mental health among collegiate student athletes in particular has increasingly become a health risk due to high training loads, tough competition, increased academic stress, and performance pressure from coaches, teammates and support systems (Schinke and Moore, 2018). The sporting world creates a culture of mental and physical toughness encouraging athletes to play through pain/injury and poor mindsets, which heightens negative stigma surrounding mental health resources. The rate of disorders and corresponding behaviors including depression, anxiety, injury over-training, eating disorders, compulsive drinking and drug use are continuing to rise as athletes struggle to cope with their mental health (Gayles and Bell, 2018). Continual emotional hardships leave student-athletes feeling alone and worthless which can lead to harmful and ultimately life-ending situations. Currently 7.3% of NCAA student athlete deaths are attributed to suicide (Powers, et al., 2020). Coaches can

serve as crucial beneficiaries for their athletes by instilling confidence and support, however poor player-coach relationships have the opposite effect and heighten negative mental health. In order to minimize poor mental health coaches need to recognize and differentiate athlete verbiage (emergent threats, mental health concerns, applied performance concerns and banter), create positive supportive cultures and minimize treatment perception/barriers (Gillham and Pirkel, 2021).

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### **Social Media is the Most Effective Medium to Obtain Sports News**

Philip Robidoux

(Communication)

*Faculty Mentor:* Michelle Michael

Social media is the most optimal and effective medium to obtain sports news. There are many different mediums to use to obtain sports news but there is little discussion on what the best medium to obtain this news is. This question is important because as technology keeps advancing so will the way we communicate therefore it is important to understand why social media is the most effective way to obtain sports news. Using meta-analysis, it was found that understanding the psychology of a sports fan is important to the topic. Another key aspect was examining the history of sports media and how it has evolved and changed with new advances in technology. Finding out why social media is effective as a medium will help show why social media is the most effective medium to obtain sports news. The results concluded the social media was the most effective medium to obtain sports news compared to other mediums. While research has shown that social media is the most effective medium to obtain sports news it is still an area that needs to be researched more because it is an always changing topic with constantly new advances in technology and how we communicate.

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### **Identifying a Possible Function for Bacteria in the Brain**

James Salvatore and Liam Stolpe

(Biology)

*Faculty Mentor:* Kurt Lucin

The community of microorganisms living within and on us is collectively called the microbiome. These communities serve many important functions in the body, which researchers are just beginning to understand. While the composition of the microbiome at most body sites has been extensively studied, little is known about the brain. Previous studies support the existence of microbial communities in the diseased brain, but none have investigated healthy brains. Using next generation sequencing for 16S, we identified bacteria in healthy mouse brains. Importantly, bacterial communities in skin and blood from the same mice differed from the brain, suggesting bacteria detected in the brain did not result from contamination. We also cultured bacteria from the brain and identified the bacterial genera present. Based on literature searches of our cultured bacteria, we found that several genera may express genes that regulate neurotransmitters. Using DH10B *E. coli*, a bacterial strain known to express several of these genes, we tested the ability of bacteria to metabolize glutamate. Glutamate metabolism was confirmed via a glutamate assay by measuring

reduced glutamate levels over time in glutamate-augmented culture broth. These findings suggest that bacteria in the brain could be critical for maintaining healthy levels of neurotransmitters.

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### **Length of Stay for Congestive Heart Failure Patients in Nationwide Readmission Data**

Maria Lara Sandoval  
(Business Administration)  
*Faculty Mentor:* Fatma Pakdil

The length of stay (LOS) is a pivotal indicator of the effectiveness of hospital management. Reducing the number of inpatient days is likely to decrease the likelihood of adverse medication reactions and infections, improves cost-effectiveness, and enhances the quality of treatments. An accurate understanding of various factors affecting LOS is essential for process improvements that may allow for more efficient patient management. The purpose of this study is to examine the impact of various variables of Congestive Heart Failure (CHF) patients, such as age, gender, and number of chronic conditions, on their LOS. This study utilizes the 2010-2017 the Nationwide Readmissions Data (NRD) sets provided in the HCUP (Healthcare Cost and Utilization Project) by the Agency for Healthcare Research and Quality (AHRQ) in the U.S. The variables were analyzed through descriptive statistics, correlation and regression analyses. The findings show that the average LOS of CHF patients was 5 days, with the average patient being a 72-year-old females. The average number of chronic conditions reported by patients was eight. Furthermore, the correlation and regression analyses show that age, gender, and the number of chronic conditions are insufficient variables to determine the causes of a CHF patient's prolonged LOS.

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### **Work/Life Balance in Professional Athletes**

Oliver Hernandez Santana  
(Business Administration)  
*Faculty Mentor:* Gregory Kane

Work/life balance is an essential aspect of human well-being that has been extensively researched in various fields, including business, psychology, and sociology. However, little attention has been paid to the work/life balance of professional athletes, despite their unique challenges and demands. Professional athletes face intense physical and mental demands from their sport, as well as pressures from sponsors, media, and fans. I aim to explore the work/life balance of professional athletes in basketball, baseball, American football, and soccer, the challenges they face, and the support system they have that help maintain a healthy balance.

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### **Parental Differential Treatment and Child Problem Behavior: The Role of Sibling Rank Order**

Sydney Smirnow  
(Psychological Sciences)  
*Faculty Mentor:* Caitlin Vasquez-O'Brien



Differential parenting (one child receives different levels of parenting than another) has been linked to negative outcomes in children. We hypothesized that younger siblings would receive more warmth and control, and that differential parenting would increase child behavior problems. Families (N=145) with two children participated in a laboratory observation. Younger children received more warmth and control, and receiving more control was linked to more hyperactivity/inattentiveness. These findings support research on the harms of differential parenting.

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### **Research Experiences for Undergraduates in Big Data Analytics in Healthcare**

Jordyn Szretter, Matthew Kiernan, Aden Goffe, Viridiana de Santiago, Jake Cohen, Martha Chatman, Issamar Ayala-Gutierrez, Maria Lara, John Reed, Huimin Wang, Edgar Omar Escutia Chagoya, Ece Pakdil, and Hannah Beazoglou  
(Business Administration & Economics and Finance)  
*Faculty Mentors:* Steve Muchiri and Fatma Pakdil

The healthcare industry has generated large amounts of data over the last decades. Digitization and effective combination of that information brings significant benefits such as detecting diseases in early stages, predicting certain developments or outcomes, and identifying patients at risk for health complications. This study focuses on analyzing trends in readmission and length of stay (LOS) of pneumonia patients between 2010 through 2014 on a national scale, using the Nationwide Readmissions Database (NRD) provided by the Healthcare Cost and Utilization Project (HCUP) in the U.S. The study also examines the impact of LOS on the likelihood of hospital readmission, emphasizing on discharge disposition and patients underlying conditions. It also illustrates various readmission trends depicted by patients under different payers, medical comorbidity, and discharge disposition.

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### **Commercial Food Consumer Health in America: How Media Users Interact with Nutritional Health Promotions on Social Media**

Autumn Szucs  
(Communication)  
*Faculty Mentor:* Michelle Michael

Nutrition is one of the most important things a human body needs. Eating balanced and nutritionally dense can help promise better health now and in the future. Nutritional advertising is important for current and future commercial food consumers in America. The question of how social media audiences interact with nutritional health promotions needs to be answered, to understand the possible influence promotional content may have on a commercial food consumer and their health. Through a meta-analysis, the only research available confirms there are no regulations on food advertisements in the United States. This creates concern regarding what foods are allowed to be promoted, and if they should even have that ability to be. The well-being and nutritional health of American consumers is rapidly decreasing, at a concerning rate. The American commercial food consumer is in danger, in both their current well-being and future health. We must

understand how audience members interact with nutritional health promotions on social media platforms, to counter act its possible negative effects on audience members.

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### **Advertising Through Mass Communications**

Cecylia Szwajger  
(Communication)

*Faculty Mentor:* Michelle Michael

This review of literature will focus on the manipulation of advertising on individuals of all age groups. The average American civilian is exposed to an estimate of 4,000-10,000 advertisements per day. This increases with the digital age. This review wants to provide reasoning for how and why advertisements can influence an individual by exposure. In addition, it looks at the production of the advertisement and why the elements being included can gear the attention towards that product. It is important to understand how advertisements function to attract attention and how they can manipulate individuals through everyday technology. The type of method that will be used in this study is quantitative and qualitative. Statistics will be provided from previous research studies for the quantitative data and for qualitative, analytical explanation of the impact of advertisements. It was proven that individuals do in fact become manipulated by having more exposure to the advertisement, since they were able to recall the information once been asked by the researcher what they remembered from the advertisement they were shown earlier in the process of the research. Their brain subconsciously remembered the details of the brand product in which they were exposed.

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### **Effects of Advertising on Body Image among College Students**

Cecylia Szwajger  
(Communication)

*Faculty Mentor:* Jehoon Jeon

This study aimed to measure the effects of body image displayed in advertising on college students' self-esteem, with a focus on gender, advertisements, and self-esteem. A random sample size of 21 participants completed a survey with three sections, covering social media usage, ad exposure, demographics, and the impact of advertising on self-esteem. The data showed that 57% of participants experienced feelings of insecurity after seeing a model with a different body type than theirs. The survey also collected data on the type of advertisements and which models were displayed most often. The majority of participants preferred the skinny and attractive models (first and third) over the other two who were different. The last question in the survey was an open-ended question, asking how advertising could be more inclusive. Responses suggested that displaying all body sizes would be more inclusive, as each body is different. This study provides insight into how advertising can negatively affect young people's self-esteem and suggests that advertising can change for the better by being more inclusive.

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## **The Effect of Music Genre Preference and Listening Frequency on Self-Esteem in Young Adults**

Noel Teter

(Communication)

*Faculty Mentor:* Jehoon Jeon

The purpose of this study was to find the effect that a person's music genre preference and how often they listen to this music has on their self-esteem. 11 young adults were surveyed; their genre preference and listening frequency were measured. Preferred genre is a categorical independent variable with two groups: "energetic/rhythmic" and "reflective/calm". Listening Frequency is an ordinal independent variable which is measured on a scale from 1 (less than 2 hours/day) to 3 (3+ hours per day). Four open-ended questions were asked to assess how young adults' self-esteem may be influenced by their music genre and listening frequency of choice. Survey responses indicated that genre preference does, in fact, affect self-esteem. Participants preferring "energetic/rhythmic" music averaged higher self-esteem scores than those preferring "reflective/calm" music. Results also showed that participants with higher listening frequency scores averaged lower self-esteem scores. Qualitative data helped identify specific reasons why young adults choose certain types of music. This data also helped researchers understand how young adults' self-esteem is affirmed by the music they listen to. The implications of this study show music has an ability to reinforce or change emotions. Communication theories regarding music's ability to communicate emotional values benefit from these implications.

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## **Out of Sight, Out of Rights: Wealth Disparity and the Criminalization of Homeless Survival Behaviors in Liberal U.S. Cities**

Maya Vanderberg

(Sociology)

*Faculty Mentor:* Kimberly Dugan

There are half a million homeless people living in America, according to the most recent available data. Homelessness is a systemic problem, caused by poverty, unemployment, and a lack of resources for things like education, mental health & addiction treatment, and job readiness. Homeless people find themselves violating many laws while engaging in survival behaviors, like sleeping, panhandling & urinating. Many of the laws regulating the survival behaviors of homeless people embody strict, punitive style of policy informed by Kelling & Wilson's Broken Windows Theory. This theory states that allowing for any visual signs of poverty in a neighborhood would increase the likelihood of crime. Public officials who implement these policies have cited concern for the shopping experience of the general public as a result of homeless people existing on the street. The reality of these policies, however, is they force people to relocate to more dangerous & remote parts of their city, and away from resources. In an effort to understand more about the perceived need for more punitive policies I studied the relationship between wealth disparity and the strictness of policies that regulate the survival behaviors of homeless people. I narrowed my focus to cities in which the general public is more liberal, in an effort to study factors other than general political conservatism. I found a few significant correlations, both positive and negative, between high wealth disparity and strict policies. I also found that correlations were more likely to be positive

when the crime was designated as an infraction, and more likely to be negative when the crime was categorized as a misdemeanor. Further research could explore further the factors that lead to these categorizations as well as revisiting political conservatism as a factor in this policy style.

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### **Separatism and Queer Utopia in the Literature of Lesbianism**

Samantha Vertucci  
(Women and Gender Studies)  
*Faculty Mentor:* Maureen McDonnell

Through looking at the works of different queer authors, this poster explores how separatist queer spaces and utopias are cultivated in different texts. The texts are both based in real events and fictional ones, but all show the different advantages and disadvantages of separate queer spaces and the social nature of each space, along with a focus on different economic levels of women.

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### **Comparing Sports Broadcasting Through Different Organizations**

Alyssa Vilchez  
(Business Administration)  
*Faculty Mentor:* Greg Kane

This independent study focuses on various aspects of sports broadcasting through different organizations. Through qualitative research analysis from individuals performing and producing content, there is a vast difference between the intensity and standard of the broadcast. Factors such as equipment, livestream software, game day process, pay grade, and internal and external pressures were considered during this research. Sources involved in this data were production crew members at Eastern Connecticut State University, Barton College, University of Connecticut, Bristol Blues, Hartford Yard Goats, and the Connecticut Sun. Results showed that while NCAA Division III programs are equipped with limited supply and predominantly volunteer work, NCAA Division I programs as well as professional programs host outsource companies to produce their broadcast. There is a substantial amount of pressure in the high-level broadcasting programs such as the University of Connecticut and the Connecticut Sun compared to the other organizations primarily due to the standards set and probable consequences.

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### **Effects of Chemical Scarification on Germination Rates and Viability of Cannabis Seeds**

Adam Wysocki  
(Biology)  
*Faculty Mentor:* Bryan Connolly

Germinating cannabis seeds is a time-consuming and expensive process that can take over a week for seeds to emerge from the seed coat, with every failed seed costing over \$10. Shortening germination time not only saves money but also reduces energy usage, as less light and heat are required per harvest. Chemical scarification, which involves breaking down the seed coat with

chemicals, has proven effective in enhancing water and oxygen absorption in other seeds and could be used to wear down the seed coat of cannabis seeds for faster imbibition. However, further research is needed to determine the optimal conditions, such as the concentrations and durations of exposure, as chemicals can be dangerous when not handled properly, and the best approach may vary depending on the seed variety and environmental conditions. Moreover, understanding the physiological and biochemical mechanisms of chemical scarification could pave the way for developing innovative approaches to enhancing the germination rate and early growth of cannabis seeds.

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### **The Relationship Between Physical Activity, Body Image, and Eating Disorder Tendencies**

Alexus Yativong  
(Psychological Science)  
*Faculty Mentor:* Jenna Scisco

In the United States college student athletes are shown to have high rates for eating disorders and body image. Therefore, it is important to examine the relationship between the physical activity, eating disorder tendencies and one's body image perception. Thirty-one participants recruited from Eastern Connecticut State University responded to the International Physical Activity Questionnaire (IPAQ), the Body Cathexis Scale (BCS), and the Eating Disorder Examination Questionnaire (EDEQ). A significant negative relationship between eating disorder tendencies ( $M = 2.22$ ,  $SD = 1.52$ ) and body image ( $M = 152.28$ ,  $SD = 27.76$ ) was displayed,  $r(31) = -.35$ ,  $p = .03$ . An insignificant correlation was found between individuals who partook in regular exercise ( $M = 5891.82$ ,  $SD = 5942.72$ ) and a low body image score,  $\rho(31) = 0.11$ ,  $p = 0.29$ . Lastly, there was an insignificant correlation between eating tendencies and exercise,  $\rho(31) = 0.07$ ,  $p = 0.36$ . The current study's results suggest that individuals who present eating disorder tendencies may also present negative perceptions of their body image. Therefore, this is an important contribution to the understanding of mental health among college students.

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### **Investigating the Potential Consequences of Microgravity on Microglial Function and Brain Health**

Kristine Zlotnick and Emily Barata  
(Biology)  
*Faculty Mentor:* Kurt Lucin

Space travel has been found to affect various physiological systems, including the brain. Microglia, the resident immune cells of the brain, are crucial in maintaining neurological health by responding to environmental changes that cause tissue injury. This study investigates whether microgravity influences microglial activation (i.e., M1 vs. M2 activation). M1 cells fight infectious organisms by secreting cytotoxic substances, whereas M2 cells heal wounds by eliminating post-traumatic debris via phagocytosis. To test this, BV2 microglial cell cultures were subjected to 24 hours of simulated microgravity using a rotary cell culture system, while control cultures were simultaneously exposed to normal gravity. Post simulation, a cell death assay confirmed that these treatments resulted in minimal death. We then examined the morphology of cells grown in microgravity, which resembled

an elongated M2 morphology. Cells exposed to microgravity also showed enhanced phagocytic activity, coinciding with M2 activation. Similar observations were obtained using IL-4 treatment, a cytokine known to induce the M2 phenotype. Our findings suggest that under microgravity conditions, microglia are driven towards an M2 polarization state, which may increase phagocytic activity. This activity may contribute to cognitive issues in astronauts, possibly due to excessive synaptic pruning via phagocytic elimination.

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