



Friday, May 4, 2018

10 a.m. – 1:30 p.m. / Science Building 125

Keynote Speaker

Dr. Jeremiah Johnson

The Significance of Non-Significant Findings: Negative Results from a Randomized Control Trial (RCT) of Patrol Visibility





“Promoting Interdisciplinary Conversations”

2018 Western Research Day Schedule

Friday, May 4, 2018

9:00 AM – 10:00 AM	Poster setup
10:00 AM – 11:00 AM	Welcome Remarks and Keynote Speaker Location: Science Building, Room 125
11:00 AM – 1:00 PM	WRD Poster Sessions Location: Science Building Atrium
1:00 PM – 1:30 PM	Announcement of Prize Winners & Concluding Remarks Location: Science Building, Room 125
2:00 PM – 4:30 PM	Resume Writing Workshop (Hosted by the Career Success Center and the WCSU Sigma Xi Chapter) Location: Science Building, Room 244

2018 Keynote Speaker: Dr. Jeremiah Johnson



Title of Talk: *The Significance of Non-Significant Findings: Negative Results from a Randomized Control Trial (RCT) of Patrol Visibility*

Abstract: Industry preference for significant results can tacitly influence scientists' research design, statistical analyses, and interpretation of findings. Discovering what does not work can be crucial to finding out what does, yet these negative findings rarely grace the pages of influential journals. Authentic scientific objectivity requires a somewhat agnostic orientation to the enterprise of human inquiry. This perspective is couched in the findings of a recent multi-site randomized controlled trial (RCT) of police patrol visibility. Visual salience of police patrol vehicles

was enhanced utilizing static red and blue emergency lighting. The experiment tested the efficacy of visual salience in deterring overnight vehicle crime across four jurisdictions in the state of Connecticut. Primary outcome measures for the intervention (i.e. motor vehicle burglary; car theft) were not statistically significant. Implications and areas for future research flow from these negative findings.

Biography: Jeremiah Johnson is a patrol sergeant and nascent criminal justice scholar serving with the Darien Police Department in Connecticut. During his 16 year law enforcement career, Jeremiah has worked as a patrol officer, field training officer, accreditation manager, patrol sergeant, detective sergeant, and acting lieutenant. Jeremiah is concurrently employed at the University of New Haven where he is an appointed Practitioner in Residence at the Henry C. Lee College of Criminal Justice. He formerly taught in an adjunct capacity for the Justice and Law Division of the Ansell School of Business at Western Connecticut State University from 2013-2017. Jeremiah is affiliated with the Police Foundation in Washington DC where he proudly serves as a Policing Fellow and the National Institute of Justice where he was recently selected as a Law Enforcement Advancing Data and Science (LEADS) Program Scholar. He has served as an accreditation assessor for the State of Connecticut since 2011 and is an appointed member of the Connecticut Interlocal Risk Management Agency (CIRMA) Law Enforcement Advisory Committee. Jeremiah was an invited observer at the November, 2012 Harvard Kennedy School Executive Session on Policing and Public Safety and was an invited guest of the White House for a 21st Century Policing Briefing which was convened on June 30th, 2016. Jeremiah holds a BA in Sociology from Geneva College ('00), an MS in Justice Administration from Western Connecticut State University ('08), an MA in Criminal Justice from John Jay College ('12), and a PhD in Criminal Justice from the City University of New York Graduate Center ('15). His dissertation research focused on the role of relational networks in diffusing law enforcement innovations.

Student Participants

Poster	Name (Last, First)	Department	Poster Title
1	Allegrini, Drake	World Languages	Pablo Picasso and the Tradition of the Spanish Bodegón
2	Andreozzi, Jenna	Psychology	Distractions on Short Term Memory Recall
3	Balaj, Anita	Chemistry	Development of an Efficient Method to Gain Access to 5-Substituted-1,3-Oxathiolanes
4	Barnaby, Laura	Philosophy & Humanistic Studies	Vicarious traumatization among social workers
5	Bavone, Rebecca	Psychology	Gender Stereotypes and Acceptance
6	Clarke, Ciera	Philosophy & Humanistic Studies	Psychology in Social Work
7	Connor, Jessica	Psychology	Effect of Gender and Time Restraints on Working Memory
8	DiCanio, Samantha	Psychology	Effects of Word Color and Background Distraction on Word Memory Recognition
9	Edwards, Lindsey	Psychology	Caffeine and Alertness Levels
10	Ellis, Chyna	Philosophy & Humanistic Studies	Development of a website for parents of children with psychological disorders
11	Eustache, Nadine	Philosophy & Humanistic Studies	Developing Resources for Onboarding Simplicity of College Readmission

12	Farrell, Rachel	Psychology	Social Media Feedback, Agreeableness, and Self-Esteem
13	Frisco, Erica	Chemistry	Progress Towards the Synthesis of Bicyclic Hydrothiophenes
14	Galicia-Roman, Fairidi <i>with: Nicholas Maro, Lindsey Aravena, Bruna Vilarva</i>	Marketing	It Is More Than Just A Study Space: The Lack of Utilization of the WCSU Libraries
15	Galuska, Rachel	Anthropology	Problematising the Conditions of Pregnant and Mothering Inmates in America
16	Gavlik, Robert <i>with: Andrew Rousseau, Maneet Singh</i>	Biology	Examining the effect of voluntary exercise on the predisposition to diet induced obesity in mice
17	Gheorghe, Teodora	Communication & Media Arts	Technology: The Extension of the Human Body
18	Grey, Jasmine	Biology	Comparing <i>Histoplasma</i> genomes to identify geographic lineages
19	Gutierrez, Kathleen	Philosophy & Humanistic Studies	M4Ms (mindfulness 4 minis) for children in the classroom
20	Hawthorne, Thomas	Philosophy & Humanistic Studies	Improving employee motivation with exercise
21	Hazel, Devon	Philosophy & Humanistic Studies	Helping Hand for Hartford's Youth
22	Heitor, Raquel <i>with: Amy Dietz, Christian Federici</i>	Biology	Relationship between body temperature and predisposition to diet-induced obesity

23	Henry, Bernard	Biology	Hatchability and bacteria of multicolored chicken eggs
24	Herger, Timothy	Mathematics and Computer Science	An Overview of the Theory of Bayesian Inference and Its Applications to Data Analysis, with a Case Study in Automobile Reliability
25	Higgins, Wayne <i>with: Sasunka Peterson</i>	Biology	Appetite as an index of predisposition to diet-induced obesity
26	Laird, Sarah	Philosophy & Humanistic Studies	Psychological toll of the fear of deportation
27	Malachowski, Phoebe <i>with: Nyshell Robertson, Noelia Mejia</i>	Biology	Diet-Induced Obesity in Mice and Stress Susceptibility
28	Martins, Mariana	World Languages	Food and National Identity: What “Jamón” and “Bacalao” Tell us about Nation Formation on the Iberian Peninsula
29	McArthur, Robert	Biology	An Analysis of Toxin-Producing Genes in Cyanobacteria from Candlewood Lake and the Housatonic River
30	McConnell, Greta	Justice & Law Administration	Sex Offender Registries & Recidivism Rates in New England: Do the Numbers Still Warrant the Cost?
31	McFarland, Shannon <i>with: Skye Zalenski</i>	Biology	Expression and regulation of the Na-Cl cotransporter (NCC) in ion regulatory tissues of Threespine Stickleback

32	Melendez, Jessica <i>with: Maya Aloni, Ph.D., Jessica Eckstein, Ph.D.</i>	Psychology	Reason for Adhering to a Gluten-Free Diet Affects Romantic Interest
33	Monahan, Daniel	Biology	Thirty minutes per day keeps the calories away: the benefits of wheel running on food intake and body weight in mice
34	Moraes-Viegas, Bharbara	Justice & Law Administration	A Dream Denied
35	Najjar, Diana <i>with: Dr. Lydia Novozhilova</i>	Mathematics and Computer Science	Using Machine Learning classification technique for college success/failure analysis based on students' personal traits
36	Nguyen, Hieu	Mathematics	Price Optimization of an Established National Brand in the Presence of Competitor(s), A Nonlinear Demand Function case, Part 1
37	Norton, Rebecca	Biology	Intro-genomic GC Variation in <i>Histoplasma</i> Strains
38	Nosworthy, Joy-Ann	Philosophy & Humanistic Studies	R A I N: Radical Anomalistic Inessential Nuances: a short book of poems
39	Noteware, Allison	Justice & Law Administration	Rehabilitating the Mentally Ill Offenders
40	Oh, Jae	Chemistry	A New Approach to the Synthesis of 1,4-Dithianes
41	Phillips, Paulette	Philosophy & Humanistic Studies	Treating alcoholism among Native Americans and schizophrenia among African Americans

42	Plouffe, Jessica <i>with: Maura R. Gissen, Brittney Romagna</i>	Psychology	Mental Rotation Performance with and Without Eye Movements
43	Power, Anthony <i>with: Maryanna Ferreira and Seantavia Williams</i>	Biology	Investigating Individual Variation To Diet Induced Obesity
44	Rahimyar, Abdul <i>with: Hieu Nguyen</i>	Mathematics	Stock Forecasting using M-Band Wavelet-Based SVR and RNN- LSTMs Models
45	Reig, Hunter	Psychology	The Effect of Color Matching and Distraction on Reaction Time
46	Robinson, Jermaine	Philosophy & Humanistic Studies	The Development of a New Life Opportunities Website
47	Rollo, Steven <i>with: Andrew Figueroa, Kevin Kelly</i>	Computer Science	ClassDB: An Open Data- Management Learning Environment
48	Santone, Bianca	Philosophy & Humanistic Studies	The psychological impact of foster care children
49	Sargeant, Rebecca	Justice & Law Administration	News Media and Public Perception of Police Use of Force
50	Sathong, Kit	Economics	How integral is democracy to economic growth?
51	Schappach, Brittany L. <i>with: Sandra M. Zapata- Ramirez, Rayda K. Krell, Neeta P. Connally</i>	Biology	A comparison of household dryer- induced mortality on laboratory- reared and field-collected <i>Ixodes scapularis</i> ticks
52	Schloss, Hunter	Computer Science	Word embeddings and adversarial neural networks for text syntheses

53	Silvia, William	Psychology	Not Like the Others: The Effects of Relationship Type on Perception of Ethnic Stereotypes
54	Simpson, Maximillian	Chemistry	Quantitative Proteomics Analysis of Glycolysis Enzymes in <i>Plasmodium falciparum</i>
55	Stancavage, Brittany	Justice & Law Administration	Connecticut Family Violence Education Program: Reducing Domestic Violence Through Education
56	Swenson, Nicole	Chemistry	Refinement and application of a solid phase extraction (SPE) protocol for natural dissolved organic matter (NDOM)
57	Tamberelli, Joseph	Justice & Law Administration	Heroin Education Action Team: Can awareness help stop the opioid crisis?
58	Telesco, Jessica	Philosophy & Humanistic Studies	Patterns of Dermatillomania
59	Vazquez Paulino, Gimayra	Psychology	The Effects of Item Specific vs. Relational Processing on Short-Term Memory
60	Williams, Yhane	Psychology	Social Media, Self Esteem, and Body Image among WCSU women
61	Wright, Zena	Chemistry	Putative Role of Cytochrome c in Apoptosis
62	Xu, Nancy	Philosophy & Humanistic Studies	Proposed Required Senior Course to Prepare Graduates for Life After College

Faculty Participants

Name

Maya Aloni
Galina Bakhtiarova
Daniel Baluha
Patrice Boily
Jay Brower
Stavros Christofi
Neeta Connally
Joshua Cordeira
Stuart Dalton
Terrance Dwyer
Rachel Galuska
Bernard Gee
Xiaoqi Han
Todor Ivanov
Rondall Khoo
Rotua Lumbantobing
Michelle Monette
Sean Murthy
Lydia Novozhilova
Patricia O'Neill
Helena Prieto
Hannah Reynolds
Forest Robertson
Michael Saccucci
Divya Sharma
Xiaodi Wang
Edwin Wong

Department:

Psychology
World Languages
Chemistry
Biology
Communication & Media Arts
Mathematics
Biology
Biology
Philosophy & Humanistic Studies
Justice and Law Administration
Anthropology
Psychology
Marketing
Computer Science
Psychology
Economics
Biological and Environmental Sciences
Computer Science
Math
Psychology
Chemistry
Biology and Environmental Sciences
Chemistry
Mathematics/Computer Science
Justice and Law Administration
Mathematics
Biology

Student Abstracts

Listed in alphabetical order by first author

1	<p>Pablo Picasso and the Tradition of the Spanish Bodegón <i>Drake Allegrini</i></p> <p>Advisor: <i>Galina Bakhtiarova, World Languages</i></p> <p>Pablo Picasso shook the art world and probably single-handedly paved the way for generations of artists who rebelled against the academic tradition in visual arts. Yet, for all his non-conformism, innovation, and rebellion against tradition, Picasso remained true to his Spanish origins and classical training. One example of this is his development of the genre of “bodegón,” a.k.a still life or nature morte. This paper explores how Picasso followed the tradition of old Spanish masters distinguished for their outstanding representation of the fruit and other food objects on canvas, yet revolutionized artistic tradition and opened a new era of representation.</p> <p>Interdisciplinary: No</p>
2	<p>Distractions on Short Term Memory Recall <i>Jenna Andreozzi</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>Past studies have shown that distractions affect short term memory recall, especially when the information in the short term memory is unrelated to the distraction. The participants will be asked to study a list of either related or unrelated words, watch a distraction video or listen to distraction audio, and then recall the words. The independent variables are related versus unrelated words, as well as audio distraction versus audio-plus-video distraction. It is hypothesized that there will be more deficits in memory recall when the information is unrelated to the distraction video.</p> <p>Interdisciplinary: No</p>

3	<p>Development of an Efficient Method to Gain Access to 5-Substituted-1,3-Oxathiolanes <i>Anita Balaj</i></p> <p>Advisor: <i>Forest Robertson, Chemistry</i></p> <p>In the field of synthetic organic chemistry, the development of new methodologies that describe the formation of sulfur heterocycles is an important research area. Such a sulfur-containing heterocycle is oxathiolane, which has been shown to possess anti-viral, anti-inflammatory as well as anti-carcinogenic properties. Lamivudine and emtricitabine are anti-viral drugs that possess the 1,3-oxathiolane moiety. This research focuses on the development of a synthetic methodology for efficient access to a library of 5-substituted-1,3-oxathiolanes via the common intermediate O,O-diethyl S-((2-(methoxy(methyl)amino)-2-oxoethoxy)methyl) phosphorothioate, which is a very stable and versatile intermediate.</p> <p>Interdisciplinary: No</p>
4	<p>Vicarious traumatization among social workers <i>Laura Barnaby</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>I will be doing a magazine issue about how social work as a profession has a negative psychological impact on its workers. Social workers face vicarious traumatization. This is experienced by professionals who are regularly exposed to other people's distressing experiences, and by empathizing with them, are themselves affected by the trauma. I will discuss the negative psychological impact of this profession (anxiety, depressive symptoms, lack of sleep, lack of motivation, substance abuse disorders), burn out rates, interviews with social workers, and healthy coping mechanisms. I conclude that social workers need support systems in place to help them properly function.</p> <p>Interdisciplinary: Yes</p>

5	<p>Gender Stereotypes and Acceptance <i>Rebecca Bavone</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>Research has shown that people who do not conform to gender stereotypes are less accepted than those who do conform. This can lead to social exclusion, harassment depression, and other mental disorders. The current study examined the effects of gender stereotypical and gender non-stereotypical occupations on acceptance. Participants were shown images of men or women and asked how likely they were to get a job that was either stereotypical or non-stereotypical for the given gender. The expected result is that nonconforming females will be the least accepted.</p> <p>Interdisciplinary: No</p>
6	<p>Psychology in Social Work <i>Ciera Clarke</i></p> <p>Advisor: <i>Stuart Dalton, philosophy & Humanistic Studies</i></p> <p>Testing the minds of faux social workers without a psychology background will help to see how child placement works differently depending on information known and the child/client in care. Faux social workers will be given case studies of children that were chosen to be put in a new home, half will be given psychological information about the child alongside placement options, the other half will be given the same case studies and list of placements without the psychological background of the child. The goal is to see which sets of social workers make the best possible choice for child placement.</p> <p>Interdisciplinary: Yes</p>

7	<p>Effect of Gender and Time Restraints on Working Memory <i>Jessica Connor</i></p> <p>Advisor: <i>Ronald Khoo, Psychology</i></p> <p>This experiment measures the influence that a participant's gender and perception of an image has on memory. Each participant's gender will be recorded and they will be shown images of males and females for 2 or 10 seconds. After, they will be given scenarios specific to each picture to determine which they remembered. Results will show if one's gender affects their memory of the opposite gender's pictures and if memory is affected by the time allowed to view each picture. It is expected that participants with longer image viewing time will remember more images and that males will remember more pictures of females and vice versa.</p> <p>Interdisciplinary: No</p>
8	<p>Effects of Word Color and Background Distraction on Word Memory Recognition <i>Samantha DiCanio</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>This study tests the effects of color and distraction on word memory. The words are displayed in different colors with or without background distractor words. Previous studies have shown that warmer colors enhance memory performance. Other studies have shown distractions have reduced memory performance. This study combines colors and memory distractions. I hypothesize that blue words will result in worse performance than red words on the memory recognition test. Also, the presence of distractions will reduce memory performance. The independent variables are color and distraction. The dependent variable is memory recognition.</p> <p>Interdisciplinary: No</p>

9	<p>Caffeine and Alertness Levels <i>Lindsey Edwards</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>Individuals who consume caffeine regularly have overall higher levels of alertness than those who do not. Participants will fill out a caffeine consumption survey at the start of the experiment, then watch one of two video clips, a boring video and a funny video. Participants will have a printout of the Stanford Sleepiness Scale to record their alertness levels before and after each video. It is hypothesized that the group of participants who consumed caffeine will have a higher rating of alertness compared to the group that does not consume caffeine, regardless of which video clip they are shown.</p> <p>Interdisciplinary: No</p>
10	<p>Development of a website for parents of children with psychological disorders <i>Chyna Ellis</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>This project will be the development of a website that provides services (coping tips and therapy) to parents, that undergo stress due to having children with psychological disorders. There is a lack of social work and psychological services in the community of Bridgeport, CT and this project will tackle this issue! Parents are undergoing extreme stress in facing the challenges of being strong and supportive caretakers. The most vital thing about this website is that, parents can finally gain assistance, create a bond with other families and release their frustration online without worrying about expenses of therapy.</p> <p>Interdisciplinary: Yes</p>

11	<p>Developing Resources for Onboarding Simplicity of College Readmission <i>Nadine Eustache</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>The purpose of this project is to incorporate MIS and Communications in a fundamental resource for returning college students. The uncertainty of readmission processes may appear to be daunting and unattainable. With the support of a client facing web portal, prospective students are provided a clear direction on ways to determine the best convenient route for success based on their individual goals. Through this website tool the user can become engaged in an environment that provides them with a personal touch that will help to facilitate their return.</p> <p>Interdisciplinary: Yes</p>
12	<p>Social Media Feedback, Agreeableness, and Self-Esteem <i>Rachel Farrell</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>This study explored whether positive social media feedback and agreeableness results in higher self-esteem. Previous research has shown that there is a link between positive social media feedback ("likes" on Facebook) and higher self-esteem. The current survey study will compare social media feedback, agreeableness, and self-esteem scales to determine if there is a relationship between these three variables. It is hypothesized that positive social media feedback and agreeableness will result in higher self-esteem, based on reciprocity theory.</p> <p>Interdisciplinary: No</p>

13	<p>Progress Towards the Synthesis of Bicyclic Hydrothiophenes <i>Erica Frisco</i></p> <p>Advisor: <i>Forest Robertson, Chemistry</i></p> <p>Sulfur containing heterocycles have been shown to possess antibacterial, anticarcinogenic, antidepressant, and anti-inflammatory properties. These heterocycles can also be used as ligands or organic catalysts. This study presents progress towards the formation of fused and bicyclic tetrahydrothiophenes in high enantiomeric excess. Starting from trans dimethylhex-3-enedioate, (E)-O,O,O',O'-tetraethyl S,S'-(hex-3-ene-1,6-diyl) bis(phosphorothioate) is produced and undergoes an intramolecular cyclization generating products in high enantiomeric excess. This synthetic plan can be used to generate a library of compounds by decorating the starting material. The biological activity of the products will be investigated in the hopes of finding a novel therapeutic agent.</p> <p>Interdisciplinary: No</p>
14	<p>It Is More Than Just A Study Space: The Lack of Utilization of the WCSU Libraries <i>Fairidi Galicia-Roman</i> with: Nicholas Maro, Lindsey Aravena, Bruna Vilarva</p> <p>Advisor: <i>Xiaoqi Han, Marketing</i></p> <p>The present research is to investigate the lack of utilization of the WCSU libraries. Specifically, we will try to understand students' perception of the library's services, how the services can be improved to better fit the needs of library users, and how to market the services. We used exploratory research including literature search, focus groups, and interviews to develop key hypotheses, which will be tested with a survey. The conclusions of our research will help elicit recommendations for the future development of the WCSU libraries.</p> <p>Interdisciplinary: No</p>

15	<p>Problematising the Conditions of Pregnant and Mothering Inmates in America <i>Rachel Galuska</i></p> <p>Advisor: <i>Rachel Galuska, Anthropology</i></p> <p>Pregnant mothers in American prison systems are routinely subjected to inhumane treatment before, during, and after the births of their children. This is facilitated by prison policies which the United Nations has condemned as violations of the Eighth Amendment of the U.S. Constitution. Using a mixture of archival research and participant-observation methods, this inquiry provides a profile of the conditions of pregnant and mothering inmates and links their experiences to other issues in the history of U.S. birthing communities, such as DES Daughters (a postpartum, pharmaceutically induced syndrome) and Twilight Sleep (an intrapartum administered drug).</p> <p>Interdisciplinary: No</p>
16	<p>Examining the effect of voluntary exercise on the predisposition to diet induced obesity in mice <i>Robert Gavlik</i> with: Andrew Rousseau, Maneet Singh</p> <p>Advisor: <i>Patrice Boily, Biology</i></p> <p>It is well known that individuals do not gain mass at the same rate when switched to a high fat diet. Of the variables that control an individual's predisposition to mass gain, exercise should have a strong relation to an individual's susceptibility to diet induced obesity (DIO). Over the period of six weeks, 11 mice were observed and monitored for their change in growth rate compared to their rate of exercise. The results showed that the rate of exercise had a tendency to reduce DIO on a standard diet [$p = .14$], on a high fat diet [$p = .08$], and upon changing between the two [$p = .14$].</p> <p>Interdisciplinary: No</p>

17	<p>Technology: The Extension of the Human Body <i>Teodora Gheorghe</i></p> <p>Advisor: <i>Jay Brower, Communication & Media Arts</i></p> <p>This research will explore theories of media that see technology as an extension of the human nervous system. I will discuss ways in which technology extends human capabilities, and expands the limits of thinking from the medical field to the everyday experience. I will demonstrate the ways in which technology acts as a fundamental extension of the human body. Technology extends the capabilities of our senses and knowledge whether in its literal or metaphorical sense.</p> <p>Interdisciplinary: No</p>
18	<p>Comparing <i>Histoplasma</i> genomes to identify geographic lineages <i>Jasmine Grey</i></p> <p>Advisor: <i>Hannah Reynolds, Biology and Environmental Sciences</i></p> <p><i>Histoplasma capsulatum</i> is a fungal pathogen that causes lung infections and has been shown to have geographically defined lineages. We sequenced five new genomes from Africa, Brazil, and the US, and attempted to replicate previous methods of creating a <i>Histoplasma</i> phylogenetic tree using a new computing environment. We tried several applications that can map sequences of DNA against a reference genome and compile them into one file. We analyzed the evolutionary relationships among the 30 original genomes and our five new genomes.</p> <p>Interdisciplinary: No</p>
19	<p>M4Ms (mindfulness 4 minis) for children in the classroom <i>Kathleen Gutierrez</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>I will develop a mini unit with 4 lesson plans for children to practice mindfulness in the classroom within their daily schedule. Instilling the importance of mindfulness in children at a young age will encourage them to be present, more aware of their emotions, and to be more successful in their academics. This project will outline steps for educators to teach mindfulness to children in early elementary school. I will put together a packet with information to guide teachers, and to provide examples of mindfulness activities.</p> <p>Interdisciplinary: Yes</p>

20	<p>Improving employee motivation with exercise <i>Thomas Hawthorne</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>In this study, I will use a meta-analysis to examine how companies can help decrease the effects of depression in their employees through exercise and diet. I will examine the benefits of how changing harmful physical health habits to more positive ones can increase worker productivity, especially in those who suffer from depression. The final step of my project will be to examine what some businesses do and to provide suggestions for other businesses to improve work productivity.</p> <p>Interdisciplinary: Yes</p>
21	<p>Helping Hand for Hartford's Youth <i>Devon Hazel</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>In this study, I will examine how correctional psychologists help Hartford's youths receive the best education, go to programs that they will help them figure out what they would like to do career wise and help them reach that goal. Lastly, the most important thing that these correctional psychologists will do is work together with the community, parents, and school board to create a method to lower youth crime significantly. The way this method will work is by collecting data from open forums and surveys. With the data, I plan on creating a way for inner city kids to have a chance to be successful.</p> <p>Interdisciplinary: Yes</p>
22	<p>Relationship between body temperature and predisposition to diet-induced obesity <i>Raquel Heitor</i> with: Amy Dietz, Christian Federici</p> <p>Advisor: <i>Patrice Boily, Biology</i></p> <p>The purpose of this experiment was to observe the variation in predisposition to diet induced obesity (DIO) in mice. We used average body temperature as an indirect estimate of overall metabolism. We observed mice for three weeks on a standard diet and another three weeks on a high fat diet. We hypothesized that the individual variation in growth rate in mice is related to individual variation in body temperature, where mice with the highest body temperature will be less predisposed to DIO. Our results indicate that there is no statistically significant relationship between change in growth rate and body temperature.</p> <p>Interdisciplinary: No</p>

23	<p>Hatchability and bacteria of multicolored chicken eggs <i>Bernard Henry</i></p> <p>Advisor: <i>Hannah Reynolds, Biology</i></p> <p>Different chicken breeds lay eggs that can vary in color, including blue, brown, and green. We tested whether egg pigmentations affected hatchability and bacterial penetration. Over 200 eggs were collected from six different breeds, and observed during incubation. Eggs were swabbed and plated on various types of agar, and bacteria were identified using PCR-based and culture-based methods. Gram+ cocci were frequently discovered in eggs failing to hatch. The Marans breeds (brown eggs) showed lower hatchability compared to other breeds, and sickness and inconsistent laying, further lowered hatchability.</p> <p>Interdisciplinary: No</p>
24	<p>An Overview of the Theory of Bayesian Inference and Its Applications to Data Analysis, with a Case Study in Automobile Reliability <i>Timothy Herger</i></p> <p>Advisor: <i>Michael Saccucci, Mathematics/Computer Science</i></p> <p>The Theory of Bayesian Inference - a method of statistical inference where Bayes' theorem is used to update probabilities as more information becomes available - is one of two major overarching philosophies of modern statistical inference. Owing to computer technology, Bayesian Inference has become a powerful technique for practical applications, being effectively utilized in the analysis of real-world data sets at the scale of today's world of "Big Data." This presentation will discuss how the theory is used in data analysis, with an illustrative example using survey data from Consumer Reports' Annual Questionnaire on estimating the reliability of automobiles.</p> <p>Interdisciplinary: No</p>

25	<p>Appetite as an index of predisposition to diet-induced obesity Wayne Higgins with: Sasunka Peterson</p> <p>Advisor: <i>Patrice Boily, Biology</i></p> <p>Obesity is a growing problem in children and adults. This study investigates why some mice are predisposed to diet-induced obesity (DIO). In order to observe diet-induced obesity, 11 outbred mice were switched from a standard diet to a high-fat diet within a period of 6 weeks. Change in appetite and growth rate was measured as an index of predisposition to DIO. We conclude that change in appetite measured before and after diet switch is not a significant variable linked to predisposition to DIO.</p> <p>Interdisciplinary: No</p>
26	<p>Psychological toll of the fear of deportation Sarah Laird</p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>This study examines the psychological toll the fear of deportation has on documented immigrants and their families. I provided a survey to five immigrants, from different backgrounds. This survey has open ended questions about what their lives were like in their place of birth versus in the United States, and if the United States has meet their expectations. The survey was anonymous to give the subjects privacy and a sense of comfort to answer questions truthfully. After reviewing their answers, I created an analysis of how fear has affected their lives and shed some light on immigration issues, along with psychological stress faced by immigrants.</p> <p>Interdisciplinary: Yes</p>

27	<p>Diet-Induced Obesity in Mice and Stress Susceptibility <i>Phoebe Malachowski</i> with: Nyshell Robertson, Noelia Mejia</p> <p>Advisor: <i>Patrice Boily, Biology</i></p> <p>The human population is experiencing an increase of obesity which could be due to consuming high fat diets. Strain C57BL/6 mice have high variation rates in the predisposition of diet-induced obesity, even though they are inbred and therefore genetically and phenotypically very similar. We investigate if stress susceptibility has an effect on the predisposition to diet-induced obesity. Stress is measured by body temperature and activity, 90 minutes after a cage change. From regression tests, we found that stress susceptibility is not a significant predictor of predisposition to diet induced obesity.</p> <p>Interdisciplinary:</p>
28	<p>Food and National Identity: What “Jamón” and “Bacalao” Tell us about Nation Formation on the Iberian Peninsula <i>Mariana Martins</i></p> <p>Advisor: <i>Galina Bakhtiarova, World Languages</i></p> <p>This paper will trace how both Jamón from Spain and Bacalao from Portugal are intertwined with the formation of the two nations on the Iberian Peninsula. Since the time of the Spanish inquisition, Jamón became a signifier of "Spanishness" and its adherence to the Roman Catholicism in its fight against the jewish and muslim presence on the territory of the Spanish state. As Portugal was aspiring to self-fashion as a maritime empire, Bacalao became a source of nourishment on long seafaring voyages as well as an emblem of colonial projection into the New World.</p> <p>Interdisciplinary: No</p>

29	<p>An Analysis of Toxin-Producing Genes in Cyanobacteria from Candlewood Lake and the Housatonic River <i>Robert McArthur</i></p> <p>Advisor: <i>Edwin Wong, Biology</i></p> <p>Cyanobacteria are prokaryotes capable of photosynthesis and nitrogen fixation. In recent years, increased nutrients from agricultural runoff and human population growth (along with warmer temperatures from climate change) have allowed cyanobacteria to proliferate in waterways. Under favorable conditions, some cyanobacteria can produce harmful toxins such as Microcystin, a compound toxic to the liver. In this study, cyanobacteria collected from Candlewood Lake and the Housatonic River were screened by PCR to identify Microcystin-producing genes in samples. The data supports the conclusion that there are cyanobacteria in our samples which possess the genetic potential for producing Microcystin toxin.</p> <p>Interdisciplinary: No</p>
30	<p>Sex Offender Registries & Recidivism Rates in New England: Do the Numbers Still Warrant the Cost? <i>Greta McConnell</i></p> <p>Advisor: <i>Terrance Dwyer, Justice and Law Administration</i></p> <p>The focus of this paper will be to analyze the effectiveness of state sex offender registries on offender recidivism rates. This paper will review state sex offender registration laws, conduct policy analysis, and sample current recidivism rates in Connecticut and surrounding New England states in an effort to ascertain if past research still remains relevant in the correlation of monitoring to repeat offending. Further, sentencing versus release values will be reviewed to determine the program's effectiveness.</p> <p>Interdisciplinary: No</p>

31	<p>Expression and regulation of the Na-Cl cotransporter (NCC) in ion regulatory tissues of Threespine Stickleback <i>Shannon McFarland</i> with: Skye Zalenski</p> <p>Advisor: <i>Michelle Monette, Biological and Environmental Sciences</i></p> <p>Threespine Stickleback have invaded novel freshwater environments resulting in physiological acclimation and adaptation for freshwater survival. To understand these processes, we examined the expression and regulation of the Na-Cl cotransporter (NCC), a protein critical to freshwater acclimation, in the ion regulatory tissues of stickleback. To do this, RNA was isolated from gill and kidney tissue and real-time PCR (RT-PCR) was used to quantify gene expression in groups of stickleback exposed to high and low salinities. To date, we have determined that one NCC paralog (NCC-3) exhibits high expression in the kidney, but little to no expression in gill of stickleback.</p> <p>Interdisciplinary: No</p>
32	<p>Reason for Adhering to a Gluten-Free Diet Affects Romantic Interest <i>Jessica Melendez</i> with: Maya Aloni, Ph.D., Jessica Eckstein, Ph.D.</p> <p>Advisor: <i>Maya Aloni, Psychology</i></p> <p>This study examined whether the motivation for adhering to a gluten-free diet influences attraction. One hundred and fifty-five single undergraduate students were presented with a dating profile of an ostensible individual in a mock online dating paradigm. The target (male vs. female) mentioned adhering to a gluten-free diet due to an allergy (allergy condition) or to a belief in the health benefits of the diet (health condition). A significant target gender by condition interaction revealed that participants were more interested in dating the female health vs. the female allergy target. There were no differences in ratings of the male targets.</p> <p>Interdisciplinary: No</p>

33	<p>Thirty minutes per day keeps the calories away: the benefits of wheel running on food intake and body weight in mice <i>Daniel Monahan</i></p> <p>Advisor: <i>Joshua Cordeira, Biology</i></p> <p>Animal studies investigating the health benefits of exercise typically use forced treadmill or long-term wheel-running, which are not clinically relevant. So, we investigated whether the frequency and duration of exercise recommended for humans could delay or prevent diet-induced obesity in mice. Thirty minutes of wheel-running on 5-days per week for 5-weeks curbed weight gain and reduced fat mass. These health benefits were the result of decreased high-fat food consumption, not increased energy expenditure. Investigating mechanisms underlying the benefits of this exercise regimen on food intake may help to develop new obesity intervention strategies.</p> <p>Interdisciplinary: No</p>
34	<p>A Dream Denied <i>Bharbara Moraes-Viegas</i></p> <p>Advisor: <i>Divya Sharma, Justice and Law Administration</i></p> <p>This study evaluates the Deferred Action for Childhood Arrivals Act of 2012 (DACA). The variables included, are the three qualifying aspects of DACA: age on arrival, education, and lack of criminal record. The study focuses on the impact of disqualification on the undocumented immigrants and how specific disqualifiers affect their quality of life. The study concludes that without the benefits granted by DACA, some undocumented immigrants may be pushed to acquire legitimate services and credentials, such as a driver's license, through illegal means, thus criminalizing them.</p> <p>Interdisciplinary: No</p>

35	<p>Using Machine Learning classification technique for college success/failure analysis based on students' personal traits</p> <p><i>Diana Najjar</i> with: Dr. Lydia Novozhilova</p> <p>Advisor: <i>Lydia Novozhilova, Mathematics</i></p> <p>Statistical analysis of personality - academic performance relationships is an active research area in Educational Psychology. Analysis of these relationships is typically performed using a standard statistical toolbox and often employs the Five-Factor Model (FFM). Quantified personal characteristics can be obtained through publicly available Big5 test. In this study, a new mathematical approach based on Machine Learning binary classification algorithms is evaluated for predicting success/failure based on the student's five personal traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness. The new approach will be illustrated with examples of constructing a decision boundary separating the two classes.</p> <p>Interdisciplinary: Yes, Psychology, Mathematics, and Computer Science</p>
36	<p>Price Optimization of an Established National Brand in the Presence of Competitor(s), A Nonlinear Demand Function case, Part 1</p> <p><i>Hieu Nguyen</i></p> <p>Advisor: <i>Stavros Christofi, Mathematics</i></p> <p>We consider an industry structure involving an established national manufacturer and a retailer. The retailer buys the national brand at wholesale and sells it along with its own generic brand, at retail prices, to the consumer. The manufacturer seeks the optimal wholesale price to charge this retailer. The analytical model entails nonlinear optimization with equality constraints (Lagrange multipliers). For the empirical model, we assume a particular nonlinear demand function to better fit the middle price tier for the soda market. We utilize logit least squares regression on historical market data to study pricing behavior in the marketplace.</p> <p>Interdisciplinary: No</p>

37	<p>Intro-genomic GC Variation in <i>Histoplasma</i> Strains <i>Rebecca Norton</i></p> <p>Advisor: <i>Hannah Reynolds, Biology</i></p> <p>Histoplasmosis is a lung infection caused by the soil-dwelling fungus <i>Histoplasma</i>. Our preliminary genome research found variable intragenomic GC-content. We studied this variability by quantifying and assessing rich and poor-GC regions using Occultercut on five previously sequenced and five newly sequenced genomes from Africa, Central America, North America, and Asia, obtained from horse and human patients. We found high levels of GC-poor DNA in horse-infecting strains. We also found that of the two strains present in North America, the high-virulence strain exhibited less GC-poor DNA. These findings suggest such regions play a role in virulence strategy and infectivity.</p> <p>Interdisciplinary: No</p>
38	<p>R A I N: Radical Anomalistic Inessential Nuances: a short book of poems <i>Joy-Ann Nosworthy</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>The fundamental purpose of this project will be to creatively explore the platform of a short book of poems by interconnecting psychology and business administration disciplines. These two disciplines will be connected innovatively through real life poems depicting an attitude to initiate awareness. These poems will project an entrance to the poetic culture in a fierce way, yet metaphoric in language. A radical summary of each poem will demonstrate influential collaboration of the two disciplines which permeates interconnectivity if intentionally examined with new eyes.</p> <p>Interdisciplinary: Yes</p>

39	<p>Rehabilitating the Mentally Ill Offenders <i>Allison Noteware</i></p> <p>Advisor: <i>Divya Sharma, Justice and Law Administration</i></p> <p>This study evaluates the Connecticut General Statute §17a-495 that defines a person with psychiatric disabilities as dangerous to self or others, gravely disabled, and voluntary and involuntary patient(s). Those categorized under this statute are spared the prison time; instead, they are sent to a rehabilitation facility for treatment. Criminologists, criminal justice practitioners, and psychologists have extensively studied the effectiveness of rehabilitating the mentally ill offenders. In this study, a thorough examination of the history of rehabilitation, procedures, characteristics, programs, and the field research surrounding insanity defenses, shows that the mentally ill offenders can be rehabilitated.</p> <p>Interdisciplinary: No</p>
40	<p>A New Approach to the Synthesis of 1,4-Dithianes <i>Jae Oh</i></p> <p>Advisor: <i>Forest Robertson, Chemistry</i></p> <p>A novel method accessing 2-substituted 1,4-dithianes is discussed. The present synthesis describes the utility of phosphorothioate esters, which serve as efficient handles for C-S bond formation compared to conventional methods. A variety of substituent groups shall be introduced into the 2-position of the 1,4-dithiane scaffold via addition of Grignard reagents to a common Weinreb amide intermediate. The SN₂-mediated intramolecular cyclization of the alcohol derived from the common Weinreb amide intermediate shall be performed to access a library of 2-substituted 1,4-dithianes.</p> <p>Interdisciplinary: No</p>

41	<p>Treating alcoholism among Native Americans and schizophrenia among African Americans <i>Paulette Phillips</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>My project will focus on creating assessments and treatment plans to address alcoholism among Native Indians and schizophrenia among African Americans. These groups are discriminated against racially and culturally, and are less likely to seek psychological care. My research will be a combination of assessment plans and cultural data on these groups. The outcome of my research will be to create a culturally sensitive treatment plan for these individuals.</p> <p>Interdisciplinary: Yes</p>
42	<p>Mental Rotation Performance with and Without Eye Movements <i>Jessica Plouffe</i> with: Maura R. Gissen, Brittney Romagna</p> <p>Advisor: <i>Bernard Gee, Psychology</i></p> <p>Mental rotation of three-dimensional objects, first examined by Shepard & Metzler (1971), is an important cognitive process of spatial reasoning. While eye movements are important for spatial reasoning, few studies relate them to mental rotation. This is the first study to involve restricting eye movements. Participants performed the mental rotation task, with alternating blocks of free and fixed gaze trials. Restricting eye movements led to decrements in both reaction time and accuracy. This unexpected result demonstrated the importance of eye movements, but also that their use required additional time.</p> <p>Interdisciplinary: No</p>

43	<p>Investigating Individual Variation To Diet Induced Obesity <i>Anthony Power</i> with: Maryanna Ferreira and Seantavia Williams</p> <p>Advisor: <i>Patrice Boily, Biology</i></p> <p>Individual variation to diet-induced obesity (DIO) was investigated in mice to help provide insight for the many factors that lead to obesity. Individual variation in NEAT (non-exercise activity thermogenesis), a component of total energy expenditure, may explain individual variation in predisposition to DIO. Female mice were used to test the relationship between individual NEAT and mass gain. The mice were fed a standard diet and were then switched to a high fat diet over the course of 6 weeks. Regression analysis indicated that there was no significant relationship between NEAT and the changes in growth rate.</p> <p>Interdisciplinary: No</p>
44	<p>Stock Forecasting using M-Band Wavelet-Based SVR and RNN-LSTMs Models <i>Abdul Rahimyar</i> with: Hieu Nguyen</p> <p>Advisor: <i>Xiaodi Wang, Mathematics</i></p> <p>The task of predicting future stock values is one that is heavily desired albeit very difficult. This difficulty arises from stocks having non-stationary behavior and without any explicit form. To analyze financial data, we propose utilizing the Wavelet Transform in place of the current convention, the Moving Average, to denoise stock signals. This newly transformed, denoised, and more stable stock data can be followed up by non-parametric statistical methods, such as Support Vector Regression (SVR) and Recurrent Neural Network (RNN) based Long Short-Term Memory (LSTM) networks to more accurately forecast stock prices.</p> <p>Interdisciplinary: No</p>

45	<p>The Effect of Color Matching and Distraction on Reaction Time <i>Hunter Reig</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>This experiment tested the effects of mismatching object color and distraction on reaction time. This experiment is partially based on Stroop (1935), using what he found on word and color identification. Participants were presented with pictures of objects whose colors matched the typical object color (e.g. red cherries), and objects whose color did not match the typical color (e.g. blue apple) as well as seeing these with and without distraction of other object pictures. Reaction time is expected to be the lowest when presented with color matched objects with no distraction and highest with color mismatching objects with distraction.</p> <p>Interdisciplinary: No</p>
46	<p>The Development of a New Life Opportunities Website <i>Jermaine Robinson</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>This website brings insight on different types of treatment and opportunities for young juvenile offenders. This website will be open to reoffending juveniles who are looking to change their lives for the better. Juveniles will be able to seek treatment from different psychological outlets to talk about their needs, what's bothering them, or what's causing them to repeat crimes. They will also be able to seek community service events, job opportunities, and to communicate with their peers.</p> <p>Interdisciplinary: Yes</p>

47	<p>ClassDB: An Open Data-Management Learning Environment Steven Rollo with: Andrew Figueroa, Kevin Kelly</p> <p>Advisor: <i>Sean Murthy, Computer Science</i></p> <p>Lack of access to modern practical tools is a hindrance for Computer Science and other STEM students. This problem was pronounced in WCSU data-management courses which relied upon a commercial system only accessible from 20 computers for up to 40 competing students. As student members of the Data Science & Systems Lab (DASSL), we have co-developed ClassDB, a free and open source system addressing this problem. Developed using modern software and data-engineering techniques, ClassDB has replaced the commercial solution for two semesters now. It provides access to an enterprise-class system with improved features, all at no cost to the university.</p> <p>Interdisciplinary: No</p>
48	<p>The psychological impact of foster care children Bianca Santone</p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>For my capstone project as an interdisciplinary studies major, I will combine both of my concentrations and create an informational website that will bring attention to the psychological effects of foster children. This website will be directed toward adults or anyone that wants to find out about foster children and how they are not always given the right type of help when they are in foster care. This website will also inform people that it is important to properly diagnose any foster child who may or may not have a psychological disorder.</p> <p>Interdisciplinary: Yes</p>

49	<p>News Media and Public Perception of Police Use of Force <i>Rebecca Sargeant</i></p> <p>Advisor: <i>Terrence Dwyer, Justice and Law Administration</i></p> <p>Can the way a news story is covered shape public perception of law enforcement, and if so, is it to blame for the backlash vilifying police encounters in which force is used? How does mainstream news media factor into public perceptions of police use of force? Is there a disconnect between perception and reality when it comes to the use of deadly physical force by the police or is this just the beginning toward a trend of changing police culture? I utilized theoretical analysis to apply communication/media theories to this criminal justice issue.</p> <p>Interdisciplinary:</p>
50	<p>How integral is democracy to economic growth? <i>Kit Sathong</i></p> <p>Advisor: <i>Rotua Lumbantobing, Economics</i></p> <p>Economic growth and development is an essential topic of focus in the eastern hemisphere where many countries remain underdeveloped. Emerging markets have been getting a lot of attention and development efforts are being made by large corporations that want to expand as a result of western markets being capped. This research topic will utilize and break down the macroeconomic GDP equation which is the sum of consumption, business investments, government spending, and the difference of exports and imports. In addition to the use of this equation, an analysis of The United States' and Thailand's governance and the country's political climate have an effect on growth, development, and the overall wealth of the country.</p> <p>Interdisciplinary: No</p>

51	<p>A comparison of household dryer-induced mortality on laboratory-reared and field-collected <i>Ixodes scapularis</i> ticks <i>Brittany L. Schappach</i> with: Sandra M. Zapata-Ramirez, Rayda K. Krell, Neeta P. Connally</p> <p>Advisor: <i>Neeta Connally, Biology</i></p> <p>Blacklegged ticks transmit the causative agent of Lyme disease and other pathogens to humans. Preventing tick bites is important for preventing disease. A recent study established that laboratory-reared adult ticks exposed to high heat from a household dryer die after 6 minutes. It is unknown whether this method is sufficient to kill field-collected ticks. We compared field-collected and laboratory-reared ticks in a household dryer under various conditions. We conclude that using a household dryer at high heat for 6 minutes is effective for killing blacklegged ticks that may bite humans.</p> <p>Interdisciplinary: No</p>
52	<p>Word embeddings and adversarial neural networks for text syntheses <i>Hunter Schloss</i></p> <p>Advisor: <i>Todor Ivanov, Computer Science</i></p> <p>Models of natural language are being increasingly used in a variety of fields. Commonly machine learning techniques convert each unique word to an integer. However, this creates a high dimensionality space in which it is difficult to learn relationships between words. This reduces the efficiency of the text models generated. This problem is exacerbated in text synthesis by the fact that improper word usage will affect the rest of the process. This research attempts to alleviate these problems by using word embeddings to make use of semantic relations between words and adversarial neural networks to monitor the text synthesis process.</p> <p>Interdisciplinary: No</p>

53	<p>Not Like the Others: The Effects of Relationship Type on Perception of Ethnic Stereotypes <i>William Silvia</i></p> <p>Advisor: <i>Patricia O'Neill, Psychology</i></p> <p>Numerous stereotypes exist about Hispanic and gay men. This study examined the relationship between sexual orientation and judgements of ethnicity. Seventy participants read a passage about a man with either a distinctly Hispanic, ambiguous, or non-Hispanic name who was married to either a man or a woman then rated their perceptions of his ethnicity, laziness, integration in mainstream American culture, and worthiness for public aid. The results indicated men in same-sex relationships were perceived as lazier, less deserving of public aid, and more integrated into mainstream culture.</p> <p>Interdisciplinary: No</p>
54	<p>Quantitative Proteomics Analysis of Glycolysis Enzymes in <i>Plasmodium falciparum</i> <i>Maximillian Simpson</i></p> <p>Advisor: <i>Helena Prieto, Chemistry</i></p> <p>Malaria is a potentially lethal disease with almost 500,000 deaths in 2015. A main pathway believed to fight this organism is programmed cell death, or apoptosis. This pathway has been elusive for single celled organisms due to natural selection. This project was carried out using quantitative proteomics to determine a possible link between the down regulation of glycolysis enzymes and possible apoptosis in the malaria parasite, <i>Plasmodium falciparum</i>. Data of parasites treated with different antimalarial drugs will be presented.</p> <p>Interdisciplinary:</p>

55	<p>Connecticut Family Violence Education Program: Reducing Domestic Violence Through Education <i>Brittany Stancavage</i></p> <p>Advisor: <i>Divya Sharma, Justice and Law Administration</i></p> <p>The Connecticut Family Violence Education Program is a nine-week program for first time domestic violence offenders. The program aims to reduce recidivism for domestic violence through educating offenders on the impact of violence on a family, and teaching them how to engage in healthy relationships. Preliminary research indicates that the program is relatively successful, but like any program, improvements can be made especially by focusing on education tailored to different sexes, placing emphasis on parenting roles, and creating partner programs for victims of violence to help reduce the prevalence and recurrence of domestic violence.</p> <p>Interdisciplinary: No</p>
56	<p>Refinement and application of a solid phase extraction (SPE) protocol for natural dissolved organic matter (NDOM) <i>Nicole Swenson</i></p> <p>Advisor: <i>Daniel Baluha, Chemistry</i></p> <p>Natural dissolved organic matter (NDOM) is a complex mixture of thousands of organic compounds found in all aquatic environments on Earth. Characterization of NDOM has been an ongoing analytical challenge. The first step in studying NDOM is to isolate it from a water sample, which is typically done via solid phase extraction (SPE). A large volume of water is passed through a SPE cartridge and the NDOM is eluted with a smaller volume of methanol. In this project, we are working on setting up and testing apparatuses in the lab to carry out SPE on water collected from Candlewood Lake.</p> <p>Interdisciplinary:</p>

57	<p>Heroin Education Action Team: Can awareness help stop the opioid crisis? <i>Joseph Tamberelli</i></p> <p>Advisor: <i>Divya Sharma, Justice and Law Administration</i></p> <p>This study evaluates the Heroin Education Action Team (USA HEAT), a drug awareness program, in Connecticut. Members of community who have lost loved ones to opioid crisis have joined forces with the District Attorney's office to form the Connecticut Chapter of the HEAT. In CT, heroin related deaths have increased from 355 in 2012 to 1,033 in 2017. The crisis is relatively new to CT, but the preliminary review shows that the chapter has successfully engaged people in 70 cities across the state to share their stories and raise awareness.</p> <p>Interdisciplinary: No</p>
58	<p>Patterns of Dermatillomania <i>Jessica Telesco</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>A survey was taken of nearly 400 sufferers of Dermatillomania (a skin picking disorder or excoriation disorder). The results show surprising patterns in regards to habits, treatment, and prevalence of the disorder. The study also explores available treatment options and general satisfaction with available resources for this disorder.</p> <p>Interdisciplinary: Yes</p>
59	<p>The Effects of Item Specific vs. Relational Processing on Short-Term Memory <i>Gimayra Vazquez Paulino</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>This study will examine whether item-specific or relation processing results in better short-term memory. Previous research has shown that item-specific processing results in more detailed memories than relation processing. However, no studies have compared the difference of both processing with recalling. This study will compare item-specific and relational processing by using black and white pictures or words in either 2 or 10 seconds. It is hypothesized that item-specific processing will result in better recall than relational processing regarding short-term memories.</p> <p>Interdisciplinary: No</p>

60	<p>Social Media, Self Esteem, and Body Image among WCSU women <i>Yhane Williams</i></p> <p>Advisor: <i>Rondall Khoo, Psychology</i></p> <p>This study examines the negative effects of social media on self-esteem and body image in women. Theoretically, women on social media have certain qualities that are admired by everyday women. Participants in this study will include women from Western Connecticut State University. All participants will be given social media comparison, self-esteem, and body image surveys. Results will be determined based on scores from all three scales.</p> <p>Interdisciplinary: No</p>
61	<p>Putative Role of Cytochrome c in Apoptosis <i>Zena Wright</i></p> <p>Advisor: <i>Judith Prieto, Chemistry</i></p> <p>Apoptosis, a type of cell-programmed death (PCD), is typically used by higher multicellular organisms for the regulation of development. It has been observed that the blood stages of <i>P. falciparum</i>, the malarial parasite, consist of apoptosis-like characteristics during stress conditions. PCD has also been observed in the mosquito life cycle stages of the parasite using cellular and biochemical means. In order to test this pathway, the recombinant cytochrome c must be obtained to measure the protease activity using a fluorogenic substrate in <i>P. falciparum</i> lysate. Data on the protein expression and purification, as well as fluorogenic assay data, will be presented.</p> <p>Interdisciplinary: No</p>

62	<p>Proposed Required Senior Course to Prepare Graduates for Life After College</p> <p><i>Nancy Xu</i></p> <p>Advisor: <i>Stuart Dalton, Philosophy & Humanistic Studies</i></p> <p>The best way to prepare students for life after college is a capstone course during senior year that will provide seniors with practical life skills. This proposed class would cross multiple disciplines such as biology, psychology, workshop, home economics, communications, finance, loan management, mortgages, taxes and many more. This interdisciplinary project will take the form of a fully thought out and designed syllabus and course description that would be ready for immediate implementation. This course will set WCSU aside by sending far better prepared graduates who will successfully navigate the graduate school world or workforce after college.</p> <p>Interdisciplinary: Yes</p>
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Judge

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