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STUDENT
RESEARCH
CONFERENCE



MARCH 22-23, 2023



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STUDENT RESEARCH CONFERENCE



MARCH 22–23, 2023

WEDNESDAY, MARCH 22

10 a.m.–2 p.m.

Taffner Field House

Student poster sessions featuring all
scholarly disciplines

THURSDAY, MARCH 23

10 a.m.–3 p.m.

D'Angelo Center Ballroom

Undergraduate and graduate student
research presentations

5–6:30 p.m.

D'Angelo Center Ballroom

Grants Reception and Award Ceremony

34th
ANNUAL
Grants
RECEPTION



ST. JOHN'S
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POSTER PRESENTATIONS





ST. JOHN'S UNIVERSITY

College of Pharmacy and Health Sciences

Poster Number: 1

Title: A review of patient-reported outcomes for oncology drugs approved by the FDA (2015-2023)

Abstract: Purpose: Patient Reported Outcomes (PROs) are patients' health statuses reported by the patient without interpretation by others. In oncology clinical trials, PROs are being used as a secondary endpoint to support the clinical effectiveness of the treatment. This study will assess and analyze PRO data in package inserts (PIs) in Food and Drug Administration (FDA) novel drug applications (NDAs) for oncology drugs approved from 2015 to 2023. Methods: The number of FDA-approved NDAs for oncology from January 1, 2011, to March 1, 2023, will be identified on the FDA website. The researchers (AV and NP) will create a draft of a data collection form using past literature. The data collection form will be pilot tested with PIs for oncology NDAs approved in 2011–2014 to ensure clarity, applicability, and agreement (kappa statistic of 80% or greater) between the two researchers. A third researcher (JM) will arbitrate any disagreement between the two researchers. Edits will be done to the data collection form as needed. The remaining PIs will be analyzed using the final data-collection form (January 2015-March 2023). Conclusion: Patients are getting more educated and involved in their care. This study will add to the literature on PROs as a crucial complement to other clinical effectiveness measures of treatment and key to understanding treatment benefits.

Keywords: Patient reported outcomes, oncology, review

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Poster Number: 2

Title: Nanoparticle in rapidly soluble vaginal film: A promising formulation for pre-exposure prophylaxis of HIV

Abstract: Nanoparticle in rapidly soluble vaginal film: A promising formulation for pre-exposure prophylaxis of HIV Leila Sallam, Hemaxi Patel, Ketan Patel Human immunodeficiency virus (HIV) transmission can be prevented with locally delivered pre-exposure prophylaxis (PrEP). Oral PrEP (Truvada® and Descovy®) is associated with some systemic toxicities and therefore a vaginal microbicide could be a promising “on-demand” alternative. Anionic pullulan (AP) has been investigated as a fast-forming film-former and anti-HIV agent. As part of this project, we developed a vaginal film loaded with nanoparticles of CCR5 co-receptor antagonist, Maraviroc (MVC). Maraviroc is a weakly basic molecule while anionic pullulan has sufficient carboxylic acid group to form a rapidly soluble nanocomplex. Nanoparticles containing MVC were loaded onto a HPMC/PVA/pullulan-based film matrix using solvent casting method. On dispersion into aqueous media, MVC film results in nanoparticle of <200 nm. Each thin transparent film contains 10 mg of maraviroc. Film showed rapid dissolution of MVC in simulated vaginal fluid with acceptable mechanical strength and safety testing in cervical cancer cell lines. We are further testing formulation using anti-HIV replication assay. We anticipate that rapidly soluble film will saturate vaginal mucosa with MVC which will prevent HIV transmission after intercourse. Ultimately, it appears that the proposed nanoparticle in film delivery system may function as a potential delivery system for effective and biocompatible PrEP for HIV prevention.

Keywords: HIV Prophylaxis, Nanoparticles, Soluble Vaginal Film

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Poster Number: 3**Title:** Inhibition of DNA methyltransferase 1 Prevents Neuroblastoma Growth

Abstract: Neuroblastoma (NB) is an extracranial solid tumor and accounts for almost 15% of childhood cancer mortalities, with a 5-year survival rate of only 40-50%. The statistics are striking and indicate the need for developing novel, less toxic, and more efficacious therapeutic approaches for NB. Epigenetic mechanisms are known to be involved in tumorigenesis, metastasis, relapse, and sustaining the malignant state of cancer cells. Recent reports have shown that gene hypermethylation to downregulate tumor suppressor pathways such as the ERK signaling pathway leads to NB. On this basis, we analyzed 1235 NB patient datasets which revealed DNMT1 expression, and MAPK1 reduction correlates with poor overall survival. In the present study, we screened various DNA methyltransferase 1 (DNMT1) inhibitors and selected the most potent and efficacious inhibitor. Further, inhibition of DNMT1 significantly and in a dose-dependent manner inhibits the NB cell proliferation in different MYCN-amplified and -nonamplified cell lines. Moreover, the DNMT1 inhibitor significantly and in a dose-dependent manner inhibits NB colony formation capacity compared to control treatments, in all NB cell lines tested. Based on this data, we hypothesize that inhibition of DNMT1 will block NB cell cycle progression, induce apoptosis, and inhibit NB tumor growth. Overall, our data highlights the role of DNMT1 and epigenetic regulators in NB development and proliferation. Our data also suggest that direct targeting of DNMT1 is an effective therapeutic approach for NB. Further developing these epigenetic targeting approaches and combining them with current therapies will provide better therapies for children battling with deadly NB.

Keywords: Neuroblastoma Treatment, Cancer, Pharmacology

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Poster Number: 4**Title:** CQI Assessment of the Aids Center of Queens County Food & Nutrition Program

Abstract: OBJECTIVES: Perform a CQI study of the food and nutrition services offered at the Aids Center of Queens County (ACQC), assessing the ability of HIV-positive patients to adhere to the dietary guidelines prescribed by a registered dietitian. INTRODUCTION: Through a community health assessment, it has been observed that a significant portion of HIV-positive individuals in NYC face food insecurity. BACKGROUND: By understanding the effects of food insecurity and how people living with HIV cope with this barrier, one can effectively implement interventions to improve the care being received by HIV-positive individuals. METHODS: This study's primary data collection ran from September 29, 2022, to December 7, 2022. Sample size: $n = 26$. Health interview surveys were conducted by the principal investigator and ACQC's dietary administrator. Descriptive data analysis was conducted using frequency tables. RESULTS: Participant ages: 30–70. Overall, 76.9% did not have a balanced diet, 100% met with the ACQC dietitian, 50% were recommended the MyPlate program, and 92.3% found ACQC services to be effective. DISCUSSION: Based on a literature review and analysis of the study data, there is a disconnect between study participants and the dietary suggestions offered by ACQC. RECOMMENDATIONS: Increased emphasis should be placed on incorporating cultural competencies into food assistance programs for the HIV-positive community in order to develop more effective programming. CONCLUSIONS: Results showed that ACQC provided adequate food and nutrition services. Findings also indicated that the majority of the participants found the recommendations to be difficult to understand and implement in their daily lives.

Keywords: Nutrition, Analysis, Community Study

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Poster Number: 5

Title: Improving Patient Safety Practices Through the Management of Multidose Vials at Weill Cornell Medicine Over a 3-Month Period

Abstract: Introduction: Patient safety and quality care are essential aspects of nursing practices at Weill Cornell Medicine (WCM). During a patient safety round at WCM, practice managers, clinical supervisors, and nursing staff (RNs and LPNs) expressed the need for an organized multidose recording system. To improve their practices, a program evaluation was conducted as follows. Design: A program evaluation based on pre-post analysis. Participants: Fifteen registered and licensed practical nurses. Intervention: Designing, implementing, and evaluating an initiative over a 3-month period. Data collection: Collecting a pretest and posttest over a 3-week period via direct observation and a structured checklist. Outcome measures: (1) Number of multidose vials used per day, (2) time ranges in which the multidose vials were used, and (3) number of days received a passing (all correct information was placed on the study spreadsheets and medical refrigerator) or failing (information was missing from the spreadsheet or medical refrigerator) grade. Conclusion: The sample size not significant enough for the program. However, when nurses used the recording tools, no errors were found. Participating sites received passing grades for all days regardless of the number of vials used per day. A posttest SWOT analyses revealed strengths, weaknesses, opportunities, and threats that could be compared between sites that participated and did not participate in the program. However, not all assumptions were met for Pearson's correlation analysis, resulting in a statistically insignificant correlation analysis output regarding the number of days with a passing grade and the number of multidose vials used.

Keywords: Program evaluation, multidose vials, quality improvement

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Poster Number: 6

Title: The Effect of Wellness Workshops on New York City Department of Health and Mental Hygiene Public Health Workforce

Abstract: Abstract Objective: To assess the effectiveness of worksite wellness (WW) offerings for the NYC Department of Health and Mental Hygiene's (DOHMH) public health workforce, addressing overall knowledge of health promotion topics, motivation to make positive lifestyle changes, and plans to implement changes in their lives. Introduction: NYC DOHMH employees can alleviate stress, burnout, and lack of physical activity through in-house programs. Background: Growing stress and burnout levels in the public health workforce are significant because they are not commonly addressed but are key factors in performance and health spending. Methods: This project employed secondary data analyses from May 10, 2022, to November 15, 2022. Sample size was 316. Descriptive data analysis was conducted using comparative techniques. Results: Among participants, 65.05% strongly agreed that "This event has motivated me to make positive changes to my lifestyle," 88.22% strongly agreed that "I would recommend this worksite wellness event to my co-workers," and 65.27% strongly agreed that "I plan on implementing new changes in my life as a result of this event." Discussion: Based on a review of the literature, wellness programs are essential for reducing stress, burnout, and lack of physical activity in study participants. Recommendations: More frequent WW programs and workshops. For future programs, nonoptional surveys to further tailor offerings to employee needs. Conclusion: The results show WW workshops and programs provided effective services regarding NYC DOHMH employees' understanding of stress, burnout, and lack of physical activity.

Keywords: public health, program study, comparative analysis

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Poster Number: 7

Title: Cancer Clinical Trials: The Role of Healthcare Providers in Addressing Inequitable Racial/Ethnic Minority Representation in Biomedical Research

Abstract: In this study, “Cancer Clinical Trials: The Role of Healthcare Providers in Addressing Inequitable Racial/Ethnic Minority Representation in Biomedical Research”, we analyze cancer clinical trials as a microcosm for the underrepresentation of racial/ethnic minorities in biomedical research. We highlight the medical community's role in preventing further exacerbation of current health disparities by adopting a framework to create clinical trials that are representative of actual incidences. Fear of unintentionally expressing offensive and/or discriminatory ideas has driven hesitancy to address the existence of race and ethnicity and their impact. Most contemporary approaches to mitigate health disparities have been patient-centric: efforts focused on addressing patients' hesitancy through direct communication with them. Addressing these disparities, however, also requires the healthcare and biomedical community to actively attend to patients’ race and ethnicity: a provider-centric approach. This effort is necessary despite medical researchers’ deeply problematic history of incorporating race and ethnicity in their research. The paper aims to support the explicit incorporation and importance of race/ethnicity in biomedical research by exploring the causes of the underrepresentation of racial/ethnic minorities in cancer research trials. Cancer research trials were selected as a microcosm of biomedical research in this paper primarily due to the irrefutable link between environmental/social factors and the causes of cancer. Further, oncological research trials receive considerably greater funding relative to other medical research endeavors due to the mechanisms and treatments for cancer continuously undergoing reassessment and development. For these reasons, trends in cancer research trials can be asserted to align with other areas of biomedical research.

Keywords: Public Health, Racial Bias, Health Disparities

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Poster Number: 8

Title: Guideline adaptation of fidaxomicin as first-line therapy for *Clostridioides difficile* infection in institutions across the United States

Abstract: In 2021, *Clostridioides difficile* infection (CDI) treatment guidelines were updated to recommend fidaxomicin over oral vancomycin as first-line therapy in initial and recurrent CDI episodes. Prior to this update, fidaxomicin use in management of CDI was limited, as cheaper alternatives were recommended as first-line therapy. The purpose of this study was to assess the guideline adaptation of fidaxomicin as first-line therapy in CDI management in institutions across the United States (US) and to identify barriers to its use. An electronic survey was distributed to members of the American Society of Health-System Pharmacists in April 2022. Baseline demographics, current practices, and barriers to fidaxomicin use were collected. Results were analyzed using descriptive statistics. Fisher's Exact Test was used to compare categorical variables. Based on 63 responses, majority of institutions (41/63, 65%) did not recommend use of fidaxomicin as first-line therapy for CDI. While most hospitals reported having institution specific CDI guidelines (48/63, 76%), over half of institutions with CDI guidelines still recommended oral vancomycin as first-line therapy (26/48, 54%). None of the institutions without CDI guidelines (0/15, 0%) recommended use of fidaxomicin as first-line therapy and majority of them (12/15, 80%) did not have fidaxomicin on formulary or restricted its use to ID services. Recommendation of fidaxomicin as first-line therapy was significantly higher in institutions with CDI guidelines versus those without (46% vs 0%, Fisher's Exact 0.0006, $p < 0.05$). Approximately 92% (58/63) of respondents reported at least 1 barrier to using fidaxomicin, with 39.6% (25/63) reporting 2 or more barriers to use. Barriers identified were cost (55/63, 87.3%), lack of formulary inclusion (14/63, 22.2%), lack of provider familiarity (13/63, 20.6%) and inability of patients to afford upon discharge (7/63, 11.1%). Majority of institutions do not currently recommend use of fidaxomicin as first-line therapy for CDI despite the recent guideline updates. Institutions with CDI treatment guidelines were more likely to recommend fidaxomicin as first-line therapy. Cost and lack of formulary inclusion were cited as the most frequent barriers to fidaxomicin use.

Keywords: infectious diseases, *Clostridioides difficile*, antibiotic-associated diarrhea

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Poster Number: 9**Title:** Personality Characteristics Determine/Influence Value in an Person vs Situation

Abstract: Background: Personality traits are attributes that are connected to our motivational system's factory settings. They decide what we typically feel motivated to perform when the environment is not having a significant impact on our behavior. What we consider important is influenced by values. A multitude of elements, including as the culture to which a person belongs, their innate personality features, and their experiences, have an impact on their values. We want to know how these two enduring elements of stability in a person interact with one another. This experiment aims to test the hypothesis that a personality characteristic will determine if they value person or situation when given both options. Methods: Data was collected from approximately 50 participants, which include, undergraduate and graduate students through the IPIP-NEO-120 measure and Eyelink 1000 plus Eye-Tracking apparatus developed by SR Research to monitor their attention on 36 randomized sets of stimuli. The IPIP-NEO-120 represents five domains and 30 facets of the Five Factor Model with 120 items. The experiment consisted of person and situation descriptions. The description for persons in the trial consisted of the Big Five (Agreeableness, Conscientiousness, Neuroticism, Openness and Extraversion) on a low-medium-high scale. The situation description in the trial consisted of the DIAMONDS (sociality intimacy, adversity, intellect, and dutifulness) on a low-medium-high scale. Each participant viewed each trial for 20 seconds, after which they completed a question that asked to rate their preference for such an interaction. Each participant completed two practice trials following calibration of the eye tracking apparatus.

Keywords: Psychology, eye-tracking, personality traits**Primary Author:**

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Poster Number: 10

Title: The conformational behavior of aryl S-Glucosides for the development of glycomimetics

Abstract: The NMR conformational analysis of a series of aryl S-glucosides in solution revealed the influence of the aglycone's structure over the glycosidic bond and hydroxymethyl group's flexibilities. The analysis of the rotational equilibria around C1—S (glycosidic bond) and C5—C6 (hydroxymethyl group) in acetyl-protected and free aryl S- β -glucosides revealed that glycosides carrying electron-deficient aryl substituent exhibit less glycosidic flexibility and increased gauche – trans (gt) contributions compared to glucosides substituted with electron-rich aglycones. Moreover, for the hydroxymethyl conformation, we found excellent linear correlations between the rotamer populations and the Hammett parameters of the respective aryl substituents. This conformational control is also present in the deprotected β -glucoside series; however, the effect is less pronounced compared with the protected congeners. Finally, the glycosidic and hydroxymethyl conformations of α -glucosides do not appear to be affected by the aglycone's structure. These findings provide practical structure–conformation relationships that could prove useful in the design of conformationally modulated glycomimetics.

Keywords: Glycomimetics, conformational behavior, aryl S-glucosides

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Poster Number: 11

Title: The Impact of Social Determinants of Health on Mental Health in Asian-Americans During the COVID-19 Pandemic

Abstract: The financial and emotional hardships experienced during the COVID-19 pandemic highlighted larger institutional injustices and emphasized the need to advocate for equitable healthcare and access to resources in marginalized groups. Racial and ethnic minorities, low-income households, and essential workers face inequitable access to valuable healthcare, education, and social resources.

Keywords: Asian-American Pacific Islanders (AAPI), mental health, COVID

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Poster Number: 12**Title:** Drug Synergism of LDH Inhibitors for Glioblastoma Pharmacotherapy

Abstract: Drug synergism has been a crucial part of pharmacology and continues to play a part in the discovery of new drug combinations that can be used to treat cancers and other diseases. The advantage of a synergistic drug not only allows lower doses of individual drugs with enhanced efficacy but also reduces adverse effects and provides protection against chemoresistance. Glioblastoma (GBM) is an aggressive primary malignant brain tumor with a poor 5 year median survival rate of merely ~6%. Altered metabolism in cancer aids its growth and invasion. Lactate dehydrogenase expression is unregulated in GBM and is correlated with decreased patient survival. Our previous study showed the efficacy of antiepileptic stiripentol (STP) in GBM cells. To study the role of LDH inhibition in STP action we hypothesized that LDH inhibitors will synergize with STP. We employed two distinct LDH inhibitors GSK2837808A and FX11. Next, we performed MTT cell viability assays in U87 human GBM cells to assess synergy potential between STP and LDH inhibitors. Our results will elucidate the role of LDH in STP's anticancer actions and have potential in the betterment of GBM pharmacotherapy. This research study is supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award Number R16GM145557 and by the funds from College of Pharmacy and Health Sciences, St. John's University.

Keywords: Pharmacology, Glioblastoma, Synergism

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Poster Number: 13

Title: MD-224 as a PROTAC MDM2 Degradar in the Tumor Regression of Wild-Type and Mutant Cancer Cells

Abstract: Proteolysis targeting chimera (PROTAC) molecule binds to and induces degradation of its substrate. PROTAC contains two binding regions with one end binding to the protein of interest and the other binding to E3 ubiquitin ligase connected via a linker to degrade protein. Human murine double minute 2 (MDM2) is an E3 ubiquitin ligase protein that degrades and inhibits the metabolic function of p53, a tumor suppressor gene, through a negative feedback loop. The overexpression of MDM2, often seen in cancers, inhibits p53 function, causing cellular abnormalities such as cancer. MD-224 is a PROTAC that contains ligands for inducing tumor regression by depleting overexpressed MDM2 proteins by binding to cereblon E3 ligase complex. MD-224 has been shown to have potent anticancer activity in degrading MDM2 in leukemia cells. To demonstrate the efficacy of MD-224 in various cancer cells, we hypothesized that MD-224 will have differential effects on p53 wild-type U87 glioblastoma & HepG2 hepatocellular carcinoma cell lines, and p53 mutant MIA PaCa2 pancreatic cancer cell line. MTT cell viability assays and CyQuant cell proliferation assays were performed to substantiate MD-224 as a potential anticancer therapy in these fatal cancers. Our study will further elucidate the regulation and target validation of MDM2 and p53 in these cancers. This research study is supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award Number R16GM145557 and by the funds from College of Pharmacy and Health Sciences, St. John's University.

Keywords: cancer research, pharmacology, cancer therapeutic agent, PROTAC

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Poster Number: 14

Title: The effect of ARV-825 on degradation of pancreatic carcinoma.

Abstract: Pancreatic ductal adenocarcinoma (PDAC) is a deadly cancer with 5-year survival rate of 12 % as per American Cancer Society (ACS) statistics. Current palliative treatment for the cancer includes conventional chemotherapy, radiation, and surgery. One of the challenges of the chemotherapeutic treatment is acquired resistance to the drugs by tumor cells. Therefore, novel and effective treatment strategies are needed for better patient outcomes in the treatment of this deadly disease. We decided to study the mechanism of pharmacologic actions of ARV-825, which is a proteolysis targeting chimera (PROTAC) for BRD4, in pancreatic cancer. Previous studies have showed the efficacy of this drug in pancreatic cancer whereas we aim to decipher its mechanism of action with respect to its control of epigenetics and cancer metabolism. Our preliminary cell viability and cell proliferation data showed lethal effect of ARV-825 in three different pancreatic cancer cell-lines (MIA PaCa-2, BxPC-3 and AsPC-1).

Keywords: ARV-825, MIAPACA2, pancreatic carcinoma therapeutics

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Poster Number: 15**Title:** Uptake and Utilization of the COVID-19 Alert App in a New York Community

Abstract: The rapid onset of the COVID-19 pandemic made a swift response to control the virus paramount within the United States. Expanded telehealth and health informatics became critical components of the pandemic response. The aim of this study was to assess the utilization of the COVID-19 New York (NY) Alert App and identify the perceived benefits and limitations of the App. A cross-sectional design was employed to collect data by using questionnaires with closed ended questions. The survey was developed and administered March through April 2021. The study found that the highest rated benefit from using the COVID-19 NY Alert App was receiving the alerts about being in close proximity within individuals diagnosed with COVID-19. Results showed that effective (sufficient and appropriate) usage was the highest rated potential challenge for using the App. Findings from this study can help improve utilization of the App and inform development of similar tele-education tools. The study illuminated considerations for health information applications in scaling-up traditional COVID-19 tracing efforts and may help in the design of similar emergency preparedness health technology.

Keywords: COVID-19, Notification Apps, mHealth**Primary Author:**

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Poster Number: 16

Title: Synthesis and Conformation of lin-cADPR: The Effect of a Tricyclic Nucleobase on an Analogue of cADPR and Calcium Release

Abstract: Many small molecules such as cAMP and IP3 are well-known to have roles in cell signaling. Cyclic adenosine 5-diphosphate ribose (cADPR) is one of these molecules. cADPR is formed from NAD⁺ in a reaction catalyzed by ADP-ribosyl cyclase (ADPRC).¹⁻⁴ Produced in response to extracellular signals, cADPR leads to the release of calcium ions from intracellular stores. cADPR has been found in a variety of organisms and organs and is involved in diverse cellular processes. However, despite the obvious importance of cADPR in cell signaling, the precise mechanism by which cADPR causes calcium release remains poorly understood. While it has long been known that cADPR-induced calcium release flows out of the ER/SR via opening of the ryanodine receptor (RyR), the identification of a presumed cADPR binding partner has remained elusive. There are many analogs of these cADPR molecules, and any of them may be a substrate for ADP-RC, the enzyme that catalyzes the conversion of NAD to cADPR. 8-Aminoimidazo[4,5-g]quinazoline is a tricyclic form of the adenine molecule that could change the confirmation of the ultimate cADPR molecule and affect substrate activity. This extends the length of the molecule and requires three phosphate groups to bridge the gap between the ribose sugars. This may prove to be a larger molecule and may be sufficient enough to act as a substrate for the enzyme. Therefore, synthesis of this compound and further analysis and enzyme assaying will be critical in determining the exact function it has.

Keywords: Biochemistry, organic chemistry, biocatalysis

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Poster Number: 17

Title: Spray-Dried Inhaled Solid Dispersion Of Amodiaquine For Respiratory Disorder

Abstract: Non-small-cell lung cancer (NSCLC), a diverse group of tumors, accounts for roughly 85% of lung cancer diagnoses. There is rising evidence that repurposed medications work extremely well against many cancers. In this study, we developed inhaled solid dispersion of AQ to enable local accumulation in the lungs, and enhanced formulation stability and efficacy against NSCLC using a spray drier. Mannitol and Leucine were used as a carrier in different proportions to prepare solid dispersion. 30% of the drug load was used with 2% solid content. Spray drying was performed using one nozzle Buchi Mini Spray Dryer B-290. The appearance of spray-dried solid dispersion was yellow in color. A significant increase was observed in the % yield of the spray-dried formulation with an increase in leucine content of the formulation (49.9% yield for 0% leucine vs. 87.6% for 75% leucine). The DSC data demonstrated that formulation 4 has capacity of changing the drug into an amorphous form, hence stabilizing it. Solid Dispersion of Amodiaquine was successfully prepared using spray dryer. Higher percentage of Leucine resulted in an amorphous formulation with a high % formulation yield.

Keywords: Pharmaceuticals, Formulation Development, Pulmonary Delivery

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Poster Number: 18**Title:** The Beneficial Effect of Bile Acid Modification on Metabolism

Abstract: Obesity increases the risk of cardiovascular disease, diabetes and metabolic diseases. However, only five drugs for weight-loss are approved by the US Food and Drug Administration (FDA). Some adverse effects of these drugs have been reported. Thus, a novel approach for obesity is necessary. Bile acids (BAs) are expected to be a drug target for obesity and metabolic diseases. BAs are synthesized in the liver and play an important role in metabolism such as energy expenditure, lipid metabolism and glucose homeostasis. Previously, we reported that the structure of BAs, particularly the position of the hydroxyl groups of BAs impacts food intake by modulating intestinal lipid sensing. We hypothesized that python derived BA, 16 α -hydroxylated BAs (pythocholic acid) regulates food intake, because of the long intermeal intervals in snake species in which these BAs are abundant. However, the effects of Pythocholic acid in mammals are completely unknown, because 16 α -hydroxylated BAs are not naturally found in mammals. To test the effect of pythocholic acid on food intake, we isolated the pythocholic acid from ball pythons (*Python regius*). Pythocholic acid was given by oral gavage in mice. We evaluated food intake and intestinal lipid in the mice. Pythocholic treatment significantly decreased food intake, and this was associated with increased jejunal oleoylethanolamide (OEA). Jejunal OEA is a bioactive lipid that induces satiety via vagally-mediated gut-brain axis. Clinical and animal studies have indicated that OEA is a prospective therapeutic target. Thus, exogenous bile acid pythocholic acid will be a potential approach for obesity and metabolic diseases.

Keywords: Obesity, Bile acids, food intake

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Poster Number: 19**Title:** Computational Drug Design: Novel Scaffold Prediction for TGR5 Agonists

Abstract: Bile acids are cholesterol derivatives synthesized in hepatocytes, secreted into the gallbladder, and released into the duodenum where they allow for the absorption, digestion, and solubilization of lipophilic fats and fat-soluble nutrients. Besides their role as surfactants, bile acids have been found to be agonists at two receptors: FXR, and TGR5. While the functional role of FXR is to signal for incoming dietary nutrient density, the primary functions of TGR5 are to increase basal metabolic rates, release GLP-1/PYY, and antagonize NF-kB/STAT3 signaling pathways. Pharmacologically, TGR5 agonists are seen as attractive targets for drug discovery, allowing for potential therapeutic benefits to combat immunometabolic disorders: insulin resistance, NAFLD/NASH, atherosclerosis, and obesity. Bile acids have a steroidal backbone, allowing for potential interactions with other human steroid receptors. Therefore, non-steroidal CNS inactive TGR5 agonists with high oral absorptions/permeabilities are target compounds for clinical development. In this project, we obtained roughly 8 million test compounds from the Zinc database to perform a computational ADMET-driven high throughput virtual screening campaign against human TGR5. End-stage compounds after screening protocols were compared to reference control compounds (synthetic/endogenous) to establish new potential scaffolds for TGR5 agonist development.

Keywords: Computational Drug Discovery, Pharmacology, Medicinal Chemistry**Primary Author:**

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Poster Number: 20

Title: Clinical Utility of Methicillin-resistant Staphylococcus aureus (MRSA) Nasal Screens at Nassau University Medical Center

Abstract: The purpose of this study is to evaluate the use of negative MRSA nasal screens in the de-escalation of anti-MRSA agents, such as vancomycin and linezolid, in patients with pneumonia at NUMC. Current literature shows that MRSA nasal screens can be utilized to discontinue unnecessary anti-MRSA coverage due to its high negative predictive value (NPV) in the setting of pneumonia. This study will identify whether negative MRSA nasal screens are optimally utilized at NUMC and identify areas of need for targeted antimicrobial stewardship intervention at the institution. A list of patients who met the following criteria was generated: adult patients at least 18 years of age admitted to NUMC between November 2021 to May 2022, diagnosed with pneumonia, and had a MRSA nasal screen performed. These patients were then screened for eligibility to be included in this study. Inclusion criteria were as follows: received vancomycin or linezolid for at least 72 hours, negative MRSA nasal screen (performed within one week of initiating anti-MRSA agent and at least one day before the last day of anti-MRSA agent). Exclusion criteria include concomitant bacterial infections besides pneumonia, no anti-MRSA therapy prescribed, no MRSA nasal screen performed, and death before MRSA screening results. Out of 162 patients screened, 18 patients met eligibility criteria and were included in the study. Respiratory cultures were performed in 13 patients (methicillin-sensitive *S. aureus*, *Klebsiella pneumoniae*, *Citrobacter koseri*, and yeast grew in 7 isolates and 6 isolates had no growth). All patients were prescribed vancomycin as their initial anti-MRSA agent while 3 of the 18 patients were switched to linezolid. The median DOT for anti-MRSA therapy was 6 days and ranged from 3 to 25 days. The median number of vancomycin levels collected was 3 and ranged from 1 to 13. Acute kidney injury occurred in 5 patients. Despite negative MRSA nasal screens, anti-MRSA therapy was only discontinued in 7 out of 18 (39%) patients and continued in 11 out of 18 (61%) patients.

Keywords: Infectious diseases, antimicrobial stewardship, screening tool

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Poster Number: 21

Title: Detection of Whole-Virus Simulants by Electrochemical Biosensors Utilizing Polyvalent Binding that Changes Electron Transfer Rate

Abstract: A method to differentiate viral fragments and intact viruses would enable more accurate disease diagnosis. Our model approach to this problem uses a biosensor: a DNA strand attached to a gold electrode which is interrogated with square wave voltammetry. The DNA strand is functionalized with a redox reporter and is also capable of binding to a virus simulant. When the strand is bound by a target, the reporter's electron transfer rate changes; this rate is a function of the strand's "floppiness". We show that a polyvalent virus simulant, the "5-pointed star" (5PS) can be differentiated from monovalent controls using this technique. This acts as a proof of principle for virus sensing.

Keywords: electrochemistry, biosensors, DNA

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Poster Number: 22**Title:** The Role of Nicotine Against Elevated Levels of HMGB1 Induced by Hyperoxia

Abstract: Lung diseases associated with lung infection and injury, such as COVID-19, are commonly marked by excessive hyper-inflammatory responses. Supplemental oxygen (hyperoxia), typically administered to COVID-19 patients under respiratory distress, can further exacerbate inflammatory responses by stimulating the release of the nuclear protein HMGB1 into the airways, subsequently compromising macrophage function and aggravating lung injury. Under physiological conditions, the lung inflammatory response is modulated by the vagus nerve cholinergic anti-inflammatory pathway through the activation of the $\alpha 7$ -nicotinic acetylcholine receptors ($\alpha 7$ nAChR) on lung macrophages. Meta-analyses indicate that smokers are less susceptible to COVID-19, suggesting a potential role of nicotine, an $\alpha 7$ nAChR agonist, in modulating lung injury. Here we show that nicotine attenuates hyperoxia-induced macrophage dysfunction through the reduction of extracellular HMGB1 released from hyperoxia-exposed cultured murine macrophages and, subsequently, attenuates hyperoxia-induced macrophage dysfunction. Therefore, these results suggest a potential beneficial effect of nicotine in regulating the pulmonary inflammatory response through the activation of $\alpha 7$ nAChR which in turn may potentially improve clinical outcomes of patients who suffer from lung injury resulting from exposure to infections alone or in combination with oxygen toxicity.

Keywords: HMGB1, Nicotine, $\alpha 7$ nAChR**Primary Author:**

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Poster Number: 23

Title: The development of amide-based cjoc42 derivatives as a potential gankyrin inhibitors

Abstract: Gankyrin is an ankyrin-repeat protein that is upregulated in numerous cancers and is found to drive cell proliferation, tumor development, and cancer progression. Additionally, gankyrin has been identified as important to the growth and development of many cancer types, including lung, breast, and liver cancer. Therefore, gankyrin and its numerous protein-protein interactions are considered prospective therapeutic targets for inhibiting the growth of certain cancers. In 2016, cjoc42, the first small molecule inhibitor of gankyrin was discovered and demonstrated antiproliferative activity against liver cancer cells. Previous work in our group has revealed that replacement of the sulfonate ester of cjc42 with an amide group significantly improved gankyrin binding while enhancing antiproliferative activity. Therefore, we are synthesizing a series of amide-based cjoc42 derivatives exploring substituted groups at each position on the phenyl ring attached to its amide group. These phenyl substitutions are intended to further improve gankyrin binding and successively enhance antiproliferative activity. Herein we describe the synthesis of these cjoc42 derivatives, and shortly, biological evaluations will determine their therapeutic benefit and their ability to inhibit gankyrin.

Keywords: Medicinal chemistry, gankyrin, cancer research

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Poster Number: 24**Title:** Developing of Stiripentol derivatives for treatment of Glioblastoma

Abstract: Lactate dehydrogenase (LDH) catalyzes the interconversion of pyruvate to lactate in the glycolysis cycle. Most cancer cells upregulate glycolysis for their ATP requirement and biosynthetic demand, a phenomenon termed the Warburg effect, which involves the rapid conversion of pyruvate to lactate by LDH. Therefore, LDH plays an important role in cancer proliferation, invasion, and metastasis, in addition to being overexpressed in many cancer cells. Glioblastoma multiforme (GBM) is a highly proliferative and malignant brain tumor, with a dismal 5-year survival rate and is known to overexpress LDH. Although GBM has a marketed drug for its treatment, Temazolomide (TMZ), there is difficulty in GBM management due to drug resistance, in addition to identifying new drugs which effectively crossed the blood brain barrier (BBB) to reach the tumor. We are repurposing Stiripentol (STP), an FDA approved drug used for Dravet Syndrome (a rare epilepsy), for new potential treatment methods against GBM, as we know that it can cross the BBB and literature shows it has potential as an LDH inhibitor. In our present work, a set of STP derivatives were designed, synthesized, and evaluated for their antiproliferative activity against 2 human GBM cell lines, U87 and U138. Primary screening identified multiple STP derivatives with significant anti-proliferative activity against GBM and improved IC50 values as compared to STP. Further evaluation by in vitro studies (MTT, CyQuant, Western blot, etc) and in-vivo studies will prove fruitful for identifying STP derivatives as novel LDH inhibitor for GBM treatment.

Keywords: Lactate Dehydrogenase, Glioblastoma Multiforme, Stiripentol**Primary Author:**

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Poster Number: 25**Title:** Content Analysis of FDA COVID-19 Warning Letters

Abstract: Background: As of February 8th, 2023, the FDA has issued 227 warning letters to firms for selling fraudulent products that claim to “prevent, treat, mitigate, diagnose or cure coronavirus disease 2019 (COVID-19)” (FDA). Purpose: Using content analysis to systematically evaluate warning letters issued by the FDA to pharmaceutical companies for fraudulent claims made for COVID-19 products. Objective: Identify the following in the warning letters: 1. The type of promotional media used 2. Product category that were promoted as unapproved COVID-19 products 3. The target audience for promotional material 4. Number of violated claims Methods: A data collection form was created using the 7 warning letters issued in March 2020. The data collection form was discussed among the researchers of this study. A pilot test will be conducted where the two researchers (DU and SA) will apply the data collection form on the 6 warning letters issued in the remainder of March 2020 to ensure there is applicability, clarity, and agreement (kappa statistic of 80% or more is acceptable) of the data collection form between the two researchers. Edits will be made to the data collection form as needed, and the final data collection form will then be used to analyze the remainder of the warning letters (total of 227, as of January 10th, 2023). Conclusion: The findings of this study will add to the FDA's mission to provide information that is credible and reliable concerning products promoted to healthcare professionals and protect consumers from fraudulent COVID-19 claims.

Keywords: COVID-19, FDA, pharmacy

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Poster Number: 26**Title:** A Literature Review of Remediation for Pharmacy Education

Abstract: Purpose: Remediation in an educational setting can be defined as the act of providing a remedy to a problem, or a process to correct an academic fault or deficiency. Remediation strategies and procedures are designed to assist students to address their deficiencies and achieve the required core competencies. Various remediation strategies such as repeating a course, reassessment, reducing course load, and creating individualized plans have been reported in the literature. However, limited data exist on comprehensive reviews of remediation pertaining to pharmacy education. Therefore, the purpose of this study will be to provide a narrative overview of remediation as it applies to pharmacy. Objectives: Specific objectives of this study will be to (i) discuss the definitions of remediation; (ii) identify remediation policies that assure high academic standards; (iii) summarize and compare remediation approaches reported in the literature. Methods: This research will comprise of a comprehensive literature review and critical analysis of the information retrieved. Data sources to be searched will include indices such as EBSCOhost, Academic Search Premier, PubMed, and Google Scholar. Articles published between 2013-2023 will be included in the study. Keywords to discuss will be remediation, education, pharmacy, health care, policy, and methods. Conclusions: The findings of this literature review will help colleges and schools of pharmacy to implement their remediation procedures and assess their effectiveness in facilitating students to address deficiencies and achieve required core competencies.

Keywords: Remediation, Pharmacy education, policies

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Poster Number: 27

Title: Economic Evaluation of Emerging Antibody Drug Conjugates (ADC) Compared to Standard of Care in Cancer: A Systematic Review

Abstract: Objectives: Although antibody drug conjugates (ADCs) have the potential to become integral to cancer treatment, these novel therapeutic antibodies may be out of reach for patients even in developed countries due to their high cost. This systematic literature review was conducted to evaluate the current evidence of cost effectiveness of leading ADCs marketed for cancer treatment in the United States. Methods: Utilized a PRISMA literature review framework to retrieve ADC cost studies and comparative economic evaluations from Cochrane Library, Embase, Google Scholar, PubMed, and Web of Science for English language publications up to 2023. Results: A total of 595 publications were identified, and 41 cost studies were included in the final review, representing nine different market-leading ADCs. Reviewed evidence of cost effectiveness was mostly dependent on the application of a willingness-to-pay (WTP) threshold of \$150,000/QALY, sustained progression free survival, estimation of proportion of long-term survivors, and price and number of patients who needed subsequent CAR T-cell therapy. Additional incremental quality-adjusted life-years (QALY) ranged from 0.54 - 1.78. Desired and significant life expectancy gains from longer and costly treatment regimens would ideally require a current drug price reduction in the range of 18-38%. Conclusions: Evidence of economic savings and cost effectiveness remains inconclusive owing to the novelty of treatment and high costs of acquisition. Available evidence, although limited, points to ADC's promise in delivering improved life expectancy and QALY gains relative to their cost. More real-world evidence (RWE) will be needed to demonstrate ADC's economic effectiveness conclusively.

Keywords: Antibody drug conjugate, cost-effectiveness analysis, and health economics

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Title: Pharmacy Student Perceptions of Provider Status for Pharmacists in New York State and Implications for Post-Graduation Planning

Abstract: Provider status (PS) is a designation that allows pharmacists to expand the scope of practice and bill health plans directly for specialized services. 38 states have introduced bills or passed legislation to recognize pharmacists as providers and granted them ability to practice at the top of their license. However, New York State is not one of them. The purpose of this study is to evaluate the awareness and knowledge of NYS pharmacy students regarding PS and implications this might have for post-graduate planning. An IRB-approved survey was disseminated through designated NYS contacts and official social media platforms to PharmD students at all eight pharmacy schools. The survey consisted of 23 questions related to demographics, students' familiarity with PS, and perceptions of how PS would ultimately affect practice in terms of career fulfillment and scope of practice. The data was analyzed to assess the readiness that pharmacy students stated they possessed to practice as providers in NYS. A total of 670 usable surveys were obtained across all target pharmacy schools. A great majority (86.96%) agreed that pharmacists in NYS should be recognized as providers just as many other healthcare professionals are in most states. More than three-quarters of students (79.61%) reported they might consider moving to a state that offered PS and expanded practice privileges to pharmacists. This study demonstrates that NYS must act quickly to pass a PS legislation to tap into the expertise of current pharmacists and retain and professionally engage the talented future pharmacists as well.

Keywords: Provider Status, Pharmacy, Scope of Practice

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Poster Number: 29

Title: A Systematic Review of Prior Authorizations in Healthcare and the Call for Modernization

Abstract: Objective : While prior authorization (PA) protocols continue to serve as a powerful cost-cutting tool for third-party payers, they have the potential to cause substantial burden to both patients and providers in terms of altered, delayed and denied care. The purpose of this study is to systematically review literature pertaining to PA processes and document benefits and burdens from the perspective of payers, patients, and providers. Methods: A systematic literature review (2015-present) was conducted by utilizing PubMed, ProQuest and ScienceDirect databases for full text publications. Studies using both primary data collection procedures and secondary data sources were included. PA elements covered factors such as study type, methods, patient population, payer type, provider insights, disease/therapeutic area, and impact on patient outcomes. Results: Out of 275 potential studies identified from search results, 12 unique studies were selected for a final review. With respect to benefits, reviewed studies show that PA protocols can achieve as much as 79% reduction in unnecessary spending (cost savings of \$288,695 to over \$1,000,000 per year), decrease adverse drug events (ADE) up to 64.6%, and improve patient safety by 91%. As a downside, a clear majority of providers who were surveyed in different studies (77%- 88% from two studies) say PA interfered with continuity of care, and claimed burdens associated with PAs were high to extremely high 88%-92.9%, according to two studies. Oncology-related care delays particularly ranged from 1-3 weeks. Conclusion: Evidence suggests that PA burdens mostly outweigh benefits. Results vary depending upon the perspective of the parties and stakeholders involved. Current controversies and clinical evidence point to an urgent need for modernization of PA procedures and transition to digital, automated, and more efficient approval protocols.

Keywords: Prior Authorization, systematic review, health outcomes

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Title: Impact of Peer Education in Advanced Pharmacy Practice Experiences on Pharmacy Student Learning

Abstract: The COVID-19 pandemic caused dramatic disruptions in the education of pharmacy students who graduated in 2022, interrupting both didactic and laboratory courses in the middle of their second professional (P2) year. In May 2021, these students transitioned from fully remote learning to in person Advanced Pharmacy Practice Experiences (APPE). Students described the pandemic negatively impacted their clinical and professional development by hindering knowledge transfer and retention. The purpose of this study was to assess the impact of implementing peer education on APPE student learning. As an additional active learning opportunity at a New York City hospital site with multiple preceptors and faculty, a monthly student led education conference was implemented. Pharmacy students on APPE rotations participated in a peer education opportunity as presenters or attendees on a rotating basis. Presenting students were responsible for researching a topic chosen by their preceptor with the goal of presenting this information at the conference. Attendee students were encouraged to ask questions and engage with one another throughout the presentation. After the presentation, all students completed a 13-item survey, which included Likert scale questions, to evaluate the impact peer education had on their overall learning and how similar opportunities could impact their future learning experiences. Descriptive statistics were used to analyze the responses. During the student led conference between May 2021 and May 2022, a total of twenty-eight students participated, 15 in the presenter role and 13 in the attendee role. Of these students, only 29% (8/28) participated in peer education on a prior APPE rotation. 86% (24/28) of students agreed that peer education should be offered during all APPE rotations when possible. 96% (27/28) agreed that peer education increased their learning during their APPE rotation. 79% (22/28) felt confident in providing education and facilitating discussion with healthcare professionals at the APPE site. 68% (19/28) felt confident in peer education as the presenter or facilitator. 93% (26/28) felt confident in peer education as an audience member. 86% (24/28) of the students surveyed agreed or strongly agreed that they were willing to provide a presentation and facilitate discussion with their peers. When asked to rate on a scale from 1 (did NOT improve at all) to 5 (greatly improved my learning), 92% (26/28) of students rated their change in learning after attending the student led conference as a 4 or 5. Students identified that participation enhanced their drug/disease state knowledge, improved their own presentation skills and/or improved their critical thinking and clinical application skills. Data from the student survey evaluations suggest that the use of peer education is beneficial for pharmacy student learning during APPE rotations. Student involvement in peer education after having experienced a lack of in person learning was shown to improve student confidence as presenters and communicators, enhance disease state knowledge, and critical thinking skills, all key to the profession of pharmacy. In the future, APPE rotation curriculums can consider the inclusion of peer education opportunities to foster these benefits.

Keywords: pharmacy student learning; virtual conference; pharmacy education; online platform; COVID-19

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Poster Number: 31

Title: Albumin coated nanocrystals of ARV-825 for targeting triple negative breast cancer overexpressing SPARC

Abstract: Triple negative breast cancer (TNBC) is highly aggressive with a high potential for metastasis, relapse, and poor prognosis. Bromodomain-containing protein 4 (BRD4) is involved in cell cycle progression and is therefore linked with various forms of cancers including TNBC. With the advent of a bifunctional molecule, Proteolysis-targeting chimera (PROTAC), a novel therapeutic strategy has surfaced which degrades the target protein instead of inhibiting it. ARV-825 is a PROTAC targeting oncogenic BRD4 and downregulates c-MYC, a key regulator of tumor progression and metastasis. The goal of our research is to formulate a translation nanocrystal ARV-825 and test its efficacy in TNBC cell lines. ARV-825 nanocrystal formulation was prepared using top-down wet media nano milling method by zirconium oxide bead of 0.3 mm. Since, SPARC (albumin-binding protein) is overexpressed in TNBC, several batches were prepared to optimize the formulation with high stability and coating with albumin. The optimized formulation was stabilized with 1% w/v albumin to ensure tumor targeted delivery of ARV. Hydrodynamic diameter, polydispersity index and zeta potential of optimized formulation were found to be 190.1 ± 12.0 nm, 0.2 ± 0.03 and -18.4 ± 2.1 mV respectively. Percentage yield was >43% with > 7.4% drug load. ARV showed dose dependent killing of TNBC cells. The IC₅₀ values of drug alone and nanocrystal formulation in MDA-MB-231 were found to be 0.03 μ M and 0.026 μ M, respectively. With an intent to develop a novel tumor targeted nanoformulation, we hope to pave the way toward improved therapy in TNBC.

Keywords: PROTAC nanocrystal, tripple negative breast cancer, SPARC

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Title: Development Of 3D Printed Swellable Vaginal Ring for Treatment of Vaginal Infections

Abstract: Women's reproductive health can be affected by changes in hormones, leading to various health problems. Creams and suppositories are common ways of delivering antifungal drugs, but they can be inconvenient for patients, so vaginal inserts with sustained release are important. Recent reports suggest that 3D printing technology could be used to create drug-delivering vaginal inserts. In this study, a new polymeric matrix of PEO and PETOx with Miconazole as a model drug was developed. The drug was mixed with the polymers using hot melt extrusion, and filaments were produced for 3D printing. The rings were studied for characteristics such as swelling, mucoadhesion, mechanical strength, and in vitro dissolution studies. The mucoadhesion study was performed on a mucin-PVA based hydrogel mimicking the vaginal mucosa. The biocompatibility of the ingredients used in the vaginal rings was tested using HeLa cells. The results showed that the rings had unique swelling patterns, which helped understand how the drug was released. The swelling index studies showed a significant increase in swelling of $1183 \pm 34.23\%$ within 4 hours. The maximum increase in radius was observed at 4 hours, and it decreased over time until complete erosion was achieved within 8 hours. The drug was released at a rate of less than 50% in the first 4 hours, with maximum swelling, and 80% was released by 8 hours. The PEO: PETOx matrix demonstrated good biocompatibility and mucoadhesion, indicating its potential for creating customizable vaginal inserts.

Keywords: 3D Printing, PETOx (Poly(2-ethyl-2-oxazoline), 3D Printed Vaginal Rings

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Poster Number: 33

Title: An Octopus-Shaped 3D Printed Gastroretentive Drug Delivery System: Optimization and Characterization

Abstract: The aim of this study was to examine the possibility of utilizing FDM 3D printing to create an "Octopus-shaped" drug delivery system for gastroretentive drug delivery systems (GRDDS). Levodopa was selected as the model drug for this investigation and hot melt extrusion (HME) was applied using three different types of polymers: swellable polymers (PEO and HPMC), polymers for sustained release (EC and HPMC-AS), and printability-enhancing polymers (HPC and PETOX). In order to determine printability, the three-point bend test was performed, and the floating behavior was evaluated by immersing the octopus in a liquid medium for 5 seconds every hour. Dissolution testing was conducted in 0.1 N HCl. The findings indicated that the HME process was carried out within a temperature range of 120-180°C. Filaments containing less than 30% HPMC and/or HPC, PETOX failed the three-point bend test, while filaments with over 30% EC or 40% HPMCAS passed but had poor adhesion between layers and were not printable. The center of gravity was influenced by the infill density of the head, with the maximum floating observed for an octopus made up of 20% PEO. The design of the octopus was intended to have a center of gravity below the head, measuring 8mm x 8mm x 15mm, fitting within a size 000 capsule. The in vitro release was optimized for a duration of 24 hours. In conclusion, this research demonstrates the potential of using 3D printing in developing a new drug delivery system for GRDDS. The outcomes emphasize the importance of polymer selection and infill density in designing the octopus for sustained release and floating behavior.

Keywords: Fused Deposition Modeling (FDM), 3D printing, gastroretentive drug delivery system (GRDDS), Hot melt extrusion (HME).

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Poster Number: 34

Title: Controlled release nanocrystalline edaravone: A novel therapeutics approach for the prevention of preterm Birth

Abstract: Preterm birth is when a baby is born before 37 weeks of gestation. It is the leading cause of infant mortality and long-term disability and prematurity in children. One of the main reasons for this includes infection associated with inflammation. Unfortunately, there is no FDA approved therapy for prevention of preterm birth. Edaravone is an FDA approved molecule with potent antioxidant and anti-inflammatory properties. It has been reported to reduce lipopolysaccharide (LPS) induced inflammation thus we are proposing to investigate it for preterm birth. Controlled release nanocrystal is an emerging and translational technology for molecules requiring high drug loading. In this study, a stable nanocrystalline formulation of edaravone stabilized with parenteral grade stabilizers was developed and currently under investigation for prevention of preterm birth. Edaravone nanocrystal formulation was prepared by top-down wet media nano milling method. Various batches were prepared by suspending edaravone (10% w/v) with suitable stabilizers alone and in combination followed by milling. Optimized formulation's (that is stabilized the BSA) particle size, poly dispersity index (PDI), zeta potential, %yield, were found to be $255.9 \pm 16.5\text{nm}$, 0.164 ± 0.09 , $-11.95 \pm 0.05\text{mV}$ and $91.5 \pm 2.1\%$. The optimized formulation demonstrated good injectability with 25G1/2 needle. Further in-vitro drug release, stability, in vitro efficacy studies, are in progress and in vivo studies in CD1 mice are planned. Stable nanocrystalline edaravone formulation is prepared. In vivo efficacy will be necessary to provide proof of concept for sustained release antioxidant-anti-inflammatory agent for prevention of LPS induced preterm birth.

Keywords: nanocrystal, edaravone, pre-term birth

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Poster Number: 35

Title: Lung cancer targeted nanoliposomes of oncogenic protein degraders: Significant inhibition of tumor growth in lung cancer-bearing mice

Abstract: Considering 60% of non-small cell lung cancer (NSCLC) express EGFR, it has evolved as an important therapeutic target for lung tumors however, the well-established EGFR inhibitors tend to promptly develop resistance. In this context, we explored a strategy that could impede resistance development and be advantageous for both EGFR-TKI-sensitive and mutant NSCLC patients. Degradation of receptors as opposed to inhibition is a strategy with potential to yield more lasting inactivation of downstream pathways. Based on critical interplay between EGFR, c-MYC and K-Ras, we hypothesize simultaneous degradation of EGFR and BRD4 using “Proteolysis Targeting Chimeras” could be universal panacea for NSCLC. Therefore, our research aimed at (i) Evaluating a novel EGFR and BRD4-degrading PROTACs combination i.e., EPRO and BPRO. (ii) Co-delivering them parenterally within biocompatible, EGFRpeptide-targeted nano-liposomes (T-BEPRO). (iii) Evaluating T-BEPRO in-vitro and in-vivo in NSCLC tumor xenograft model. Even if there are numerous reports on combinatorial therapies, this is the first study aiming to combine two PROTACs. Compared to individual IC50s, strong synergism was observed at 1:1 ratio of BPRO and EPRO. For the combination, significant inhibition of cell growth with higher cellular apoptosis was observed in 2D and 3D-based cell assays in nanomolar concentrations. EGFR activation assay revealed 47.60% EGFR non-expressing cells confirming EGFR-degrading potential of EPRO. T-BEPRO revealed a particle size of 109.22 ± 0.266 nm with enhanced cellular uptake and activity. Remarkably, parenterally delivered T-BEPRO in tumor-bearing mice showed a substantially higher % tumor growth inhibition (TGI) of 77.6% with long-lasting tumor inhibitory potential as opposed to individual drugs.

Keywords: PROteolysis TArgeting Chimeras, Combination therapy, Targeted nanoformulation, Non-small cell lung cancer

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Poster Number: 36**Title:** Investigating the relationship between discrimination and hypervigilance in emerging adults

Abstract: An estimated 5 to 15% of college students reported experiencing racial discrimination (Stevens, 2018), which is associated with numerous health-related outcomes, including anxiety (Lee et al., 2018) and hypervigilance, a symptom of posttraumatic stress disorder (Comas-Diaz, 2019). Previous studies linked racial discrimination to greater hypervigilance in adolescents (Brabeck et al., 2022) and adults (Kim et al., 2022). However, less is known about discrimination and hypervigilance in emerging adults, which is explored in the present study. Participants included 170 undergraduate psychology students at St. John's University (n=124 female, 38 male, 8 other; Mage=19.26 years, SD=1.42). Most participants (67.6%) identified as either Asian American, Black/African American, Hispanic/Latino(a)/Spanish origin, or multiracial. Hypervigilance was measured with the 5-item Brief Hypervigilance Scale (Bernstein et al., 2015), with responses on a 5-point scale from 'Not at all like me' to 'Very much like me.' Discrimination was measured with the 11-item Everyday Discrimination Scale (Williams et al., 1997), with responses on a 6-point scale from 'Never' to 'Almost every day.' Hypervigilance and discrimination items were summed, with higher scores reflecting higher levels of hypervigilance and more frequent discrimination, respectively. Results from a regression analysis showed that discrimination explained 10.3% of the variance in hypervigilance ($F(1,168)=19.26, p<.001$). Specifically, more frequent discrimination was associated with higher hypervigilance levels in emerging adults ($b=0.13, p<.001$). Findings from this present study suggest that discrimination contributes to hypervigilance during emerging adulthood; however, future studies should examine the longitudinal impact of discrimination on hypervigilance in nationally representative samples of emerging adults.

Keywords: Discrimination, Hypervigilance, and Emerging Adults**Primary Author:**

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Title: BMP-Specific Transcriptional Activity Stimulated by Novel Synthetic Benzimidazoles

Abstract: Bone Morphogenetic Proteins (BMPs) are powerful morphogens that act through numerous intracellular signaling pathways, leading to changes in gene transcription. Exogenous compounds that stimulate BMP signaling pathways would also be expected to regulate BMP-specific transcription. The Perron Lab, in collaboration with the SJU Yoganathan lab, has recently reported that a series of newly synthesized benzimidazole compounds stimulate intracellular signaling in a BMP receptor-dependent manner. A few of these compounds have recently been shown to stimulate increases in BMP-induced genes, such as Id1 and Osteocalcin. This study aims to establish a reporter system to allow rapid screening of novel compounds for transcriptional regulation of BMP-related genes. Reporter plasmid pGL3 BRE luciferase (BRE Luc), containing a BMP Response Element (BRE), was used to detect BMP-specific transcription. The BRE Luc reporter system generates a luminescent signal when BMP-dependent transcription factors are activated and bind to the BRE segment. To establish benzimidazole BRE-dependent transcriptional screening, transfection conditions for the model cell line, C2C12 mouse myoblast cells, were first optimized for maximum transfection efficiency. Stimulation of BRE Luc-transfected cells with BMP4 for 2 hours resulted in a robust luminescent signal (>20-fold above control). Stimulation of C2C12 cells for 2 hours with increasing concentrations of BMP4 demonstrated a concentration-dependent luminescent response. Next, cells expressing BRE Luc will be stimulated with select members of the novel series. Data generated by screening this series of newly synthesized compounds will identify BMP-like candidates for further characterization and provide structure/function information about various substitutions in the series.

Keywords: Neuropharmacology, Molecular Biology, Transcriptional Regulation

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Poster Number: 38**Title:** Investigation of Novel Molecules as Agonists for BMP Signaling

Abstract: This research focuses on the characterization of the novel compounds, SY-LB-35 and SY-LB-57, that were recently identified as the first full agonists for Bone Morphogenetic Protein (BMP) receptor signaling. BMP agonists have vast therapeutic potential for diseases, such as Pulmonary Arterial Hypertension (PAH), and can be used for treating bone fractures, cutaneous ulcers, burn injuries, and repair of other tissues due to their pleiotropic effects. In PAH, there is a downregulation of BMP signaling due to a mutation in the bone morphogenetic protein receptor-2 (BMPR2) gene. My contribution to this project will involve assessing the changes in gene expression in mice in which PAH has been induced and, ultimately in PAH-mice treated with SY-LB-35 and SY-LB-57. To validate the in vivo model of PAH, RNA will be extracted from the lungs of control- and PAH-mice treated with the novel compounds and transcribed into cDNA. The cDNA will be used for PCR using primers specific for the target genes. Gene expression levels will be first assessed using end-point PCR (35-40 cycles). Genes with affected expression levels will be further assessed using quantitative PCR. Control PCRs using cDNA from C2C12 myoblast cells will be used to establish conditions for each set of primers. All in vitro data will be compared to cells stimulated with recombinant BMP2. Taken together, my project is expected to confirm the establishment of the in vivo PAH model and determine whether the novel compounds, SY-LB-35 and SY-LB-57, might be able to restore the levels of BMPR2 that are decreased or lost in the PAH disease model.

Keywords: Pharmacology, pharmacy, gene expression

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Title: Potential Competition Between Novel Benzimidazoles as Agonists of BMP Receptors

Abstract: Bone Morphogenic Proteins (BMPs) are key signaling molecules during embryonic development and are important factors for the maintenance of osseous tissue throughout development and into adulthood. Unfortunately, using recombinant BMPs, which have been approved for bone fracture repair, is expensive and potentially dangerous. BMPs bind to a receptor complex, resulting in activation and phosphorylation of substrate proteins called Smads, forming phosphorylated Smad (P-Smad). P-Smad subsequently acts to regulate gene expression through transcription. The recent discovery of small molecule benzimidazoles (LB-3-67, LB-3-101, and LB-3-107), that can activate BMP receptors in place of BMPs is an exciting finding. However, it is unclear how these BMP-like benzimidazoles interact at the BMP receptor complex. The aim of this research is to determine just this. Stimulating C2C12 cells, a myoblast cell line, with BMPs or the novel compounds results in large increases in cell viability. Curiously, only LB-3-101 and LB-3-107 were able to stimulate P-Smad in C2C12 cells suggesting LB-3-101 and LB-3-107 have a required structural component that is missing in LB-3-67. Competition assays were designed to determine whether LB-3-67 might antagonize the effects of LB-3-101 or LB-3-107 and revealed a potential synergistic effect in the presence of LB-3-67. Assays designed to compete increasing concentrations of LB-3-101 or LB-3-107 against BMPs will determine whether these novel compounds might be using orthosteric sites on the BMP receptor complex. Performing such competition assays between the novel compounds and BMPs will help answer important structure/function questions of how – and where – the novel benzimidazoles bind the BMP receptor complex.

Keywords: Pharmacology, BMP receptor-binding, viability assay

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Poster Number: 40

Title: Distinct functional outcomes stimulated by closely related aryl benzimidazoles in pluripotent cells

Abstract: Bone morphogenetic proteins (BMPs) are a family of powerful growth factors. Though renowned for their pivotal role in the induction of bone and cartilage, BMPs are involved in the regulation of cell proliferation, survival, differentiation, and apoptosis. Given their ubiquitous expression and diverse functionality, deficiencies in BMP production or pathway signaling induce defects or severe pathologies. Stimulation of BMP signaling by exogenous compounds could serve as a beneficial therapeutic intervention for disorders in which the effects of BMPs are lost or diminished. Here, novel aryl benzimidazoles, particularly SY-LB-067, SY-LB-101, and SY-LB-107, were examined for their ability to successfully mimic BMP functionality and act as BMP receptor agonists. SY-LB-101 and -107 promoted proliferation in C2C12 cells from micromolar to picomolar concentrations. Moreover, SY-LB-101 and SY-LB-107 only stimulated the phosphorylation of Smad transcription factors (a key component of canonical pathway signaling). In contrast, SY-LB-067 did not stimulate increases in phospho-Smad (p-Smad) at any concentration tested. Non-Smad targets including p-Akt, p-ERK, p-p38 and p-CDK1 strongly stimulated by all three aryl benzimidazoles. These data indicate a functional bias for the Smad pathway by SY-LB-101 and SY-LB-107 that SY-LB-067 cannot access. Exploration of this signaling bias may lead to more targeted development of these novel compounds as therapeutics for diseases resulting from loss or damage to BMP-dependent mechanisms.

Keywords: Benzimidazoles, BMPs, Smad stimulation

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Poster Number: 41

Title: Discovery of a new class of aryl-thiazoline sulfonamides as CDK4/6 inhibitors and potential anticancer agents for the treatment of hepatocellular carcinoma

Abstract: Introduction: Hepatocellular carcinoma (HCC) is one of the most difficult to treat cancer type and has a very low survival rate. Although early-stage HCC can be treated via surgical resection, advanced HCC has limited therapeutic options. Currently, sorafenib, a tyrosine kinase inhibitor remains a frontline drug for systemic treatment. Poor prognosis and high chance of recurrence of HCC highlight the importance and pressing need for new classes of chemotherapeutics. Cyclin-dependent kinase 4/6 (CDK4/6) have been identified as two key regulators of cell cycle, and a prominent druggable target. Current literature provides key evidence that CDK4/6 inhibitors are promising class of chemotherapeutics for the treatment of HCC. Novel chemical entities that can directly or indirectly inhibit CDK4/6 activity can provide the next generation therapeutics to treat HCC. Method: A divergent synthetic approach enabled us to access a library of novel class of 'aryl-thiazoline sulfonamides for anticancer evaluation. We used a MTT assay for anticancer activity screening against four different liver cancer cell lines (HepG2, Hep3B, Huh7 and SK-Kep1), as well as a control cell line (HEK293). We also performed a kinase inhibition assay as part of the mechanistic investigation. Results: We have synthesized and characterized a novel class of aryl-thiazoline sulfonamides for anticancer studies. Initial structure-based investigation has led us to identify two new compounds with low micromolar anticancer activity against various liver cancer cell lines. Further mechanistic evaluation confirmed that these compounds inhibited CDK4 and CDK6 isoforms in a highly selective manner. Our current efforts are focused on further optimizing the chemical scaffold to improve anticancer activity and gaining more mechanistic insights. Conclusion: We have identified a new class of aryl-thiazoline sulfonamides as potent CDK4/6 inhibitors, with low micromolar activity. We plan to further explore the SAR of this pharmacophore and identify more potent anticancer leads.

Keywords: liver cancer, HCC, aryl-thiazoline, anticancer drug, CDK4/6

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Title: DISCOVERY AND DEVELOPMENT OF BIS-BENZIMIDAZOLES AS TOPOISOMERASE II INHIBITORS FOR THE TREATMENT OF CANCER

Abstract: Background: Topoisomerases are essential enzymes that regulate DNA replication, transcription, and DNA remodeling. Topoisomerase inhibitors are prominent therapeutic agents for treating infectious diseases and cancer. Anticancer drugs inhibit cancer cell proliferation by halting DNA replication and inducing cell cycle arrest. Common structural motifs observed in many successful topoisomerase inhibitors include conjugated aryl rings and heteroaryl rings. In this regard, the benzimidazole scaffold has emerged as a prominent pharmacophore for the design of topoisomerase inhibitors. Bis-benzimidazoles are drug-like aryl-scaffolds, yet their ability to inhibit topoisomerase enzymes remains unexplored. Methods: The bis-benzimidazoles were designed based on readily available precursors and a library of compounds was established for medicinal chemistry evaluation. A highly effective synthetic methodology that was developed in the Yoganathan lab was employed to access a library of bis-benzimidazoles. All compounds were fully characterized using NMR and LCMS. We used a standard MTT assay to evaluate the anticancer activity of test compounds against four different cancer cell lines (HeLa, MDA-MB231, A549 and MCF-7). Human topoisomerase II activity assay was performed using a Topo II agarose gel assay (TopoGen). Results: We successfully synthesized a library of 12 new compounds based on pyridine-dicarboxylic acid and chelidamic acid. Using various phenyldiamines enabled us to assess a preliminary SAR for the bis-benzimidazole scaffold. Initial cytotoxicity assay identified four new anticancer bis-benzimidazoles (IC₅₀ of 2.72 to 20.55 μ M). Mechanistic studies revealed that compound 3 inhibited Topo II enzyme activity. Conclusion: We have demonstrated that an in-house synthetic method enabled us to access a series of bis-benzimidazole derivatives with anticancer activity. Moreover, an initial mechanistic study has confirmed that the bis-benzimidazole scaffold is a promising topoisomerase II inhibitor. Further optimization of the structure may lead to the discovery of a more potent scaffold.

Keywords: Topoisomerase II, bis-benzimidazoles, anticancer agents, heterocycles

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Poster Number: 43

Title: Chemical synthesis and antibacterial evaluation of a new class of indolyl-benzimidazole derivatives

Abstract: Infections caused by drug-resistant pathogenic bacteria are becoming more and more difficult to treat in clinical settings. Even the most potent antibiotics are ineffective in treating infections caused by superbugs, such as MRSA, VRSA and ESKAPE pathogens. To address this growing public health problem, we are in dire need of new classes of antibiotics. Synthetic small molecules provide a useful chemical space to discover new antibiotics. Heterocyclic scaffolds are part of the chemical structure of several clinically used antibiotics, due to their ability to provide desirable physiochemical properties. Moreover, heterocyclic motifs provide favorable binding interactions with their target proteins. The Yoganathan lab has been investigating benzimidazole-derived small molecules as potential therapeutic agents for several years. Our lab has successfully developed a simple and scalable chemical method to synthesize a small library of benzimidazoles from commercially available carboxylic acids and various 1,2-diaminobenzenes. We have recently reported a series of ‘indolyl-benzimidazoles’ that show promise as antibacterial compounds. Current efforts are focused on the synthesis of a diverse library of indolyl-benzimidazoles and investigation of their antibiotic activity against both Gram-positive and Gram-negative bacteria. Our goal is to perform a bioactivity guided approach to improve the chemical structure and discover new antibiotic leads.

Keywords: benzimidazole, heterocycles, antibiotics, chemistry, medicinal chemistry

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Poster Number: 44

Title: Investigation of a novel class of synthetic small molecules as potential modulators of cGAS-STING signaling pathway

Abstract: Stimulator of Interferon genes (STING) is a transmembrane protein found in the endoplasmic reticulum, which is pivotal to the sensing of cytosolic DNA, and induces interferon. The presence of DNA in the cytosol is a pattern- or damage- associated molecular pattern (PAMP or DAMP) indicative of pathogenic invasion which induces the production of inflammatory cytokines and type-I interferon as host innate immune defense. STING is activated by cGAMP (cyclic-guanosine monophosphate-adenosine monophosphate), a second messenger and a potent agonist of STING. The importance of cGAS-STING signaling pathway in cellular inflammatory response, relating to infections, autoimmune diseases and cellular/tissue damage has made STING a druggable target. Structural mimetics of STING activators have been investigated as potential therapeutics for various autoinflammatory, autoimmune and degenerative diseases. Cyclic dinucleotides-based compounds and non-cyclic dinucleotides small molecules are the general class of small molecules developed in the recent past. Herein, we are investigating novel benzimidazole derivatives as small molecule modulators of STING. Utilizing a synthetic method established in the Yoganathan lab, a small library of benzimidazoles have been synthesized. We plan to expand our library by synthesizing a structurally diverse benzimidazole-based compound library. These new compounds will be evaluated using an in vitro cell-based activation of STING for the induction of cytokines using commercially available HEK STING Reporter cells (STING SEAP Reporter 293) and the Interferon Regulatory Factor (IRF) reporter (Luc)-THP-1 cell line. Using this activity-based screening approach, we plan to identify and further optimize new chemical scaffolds as promising drug leads.

Keywords: Medicinal Chemistry

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Poster Number: 45

Title: Proper Access to Education Regarding Vaccinations and Pandemics on College Campuses

Abstract: This study will analyze the relationship between educational knowledge of vaccinations and pandemics held by St. John's University Queens Campus college students before the coronavirus epidemic and their current knowledge of these topics, after having lived through a pandemic. It will also study the behaviors of universities and college students at different points throughout the pandemic. The purpose of the proposed research is to see if a workshop about vaccinations on the St. John's Queens campus, would help students feel as though they are getting a proper access to education when it comes to public health.

Keywords: public health, education, vaccinations

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Poster Number: 46

Title: Financial Literacy Levels of First-Generation Undergraduate Students at St. John's University

Abstract: This research aims to determine the financial literacy level of first-generation, undergraduate students at St. John's University. This will be completed through a survey.

Keywords: financial literacy, undergraduate

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Poster Number: 47**Title:** Plan Do Study Act (PDSA) to improve Bilevel Positive Airway Pressure (BiPAP) Use & Mortality

Abstract: Prolonged Bilevel Positive Airway Pressure (BiPAP) use can be associated with reduced patient satisfaction and adverse consequences. Potential patient harms associated with prolonged BiPAP use include pressure injuries, delaying recognition of clinical deterioration, use not consistent with patient-centered care, and death. A Plan-Do-Study-Act (PDSA) intervention was employed to reduce the length of time (LOT) patients spent on BiPAP. A PDSA cycle offers a framework for identifying and testing modifications to raise system quality effectively, commonly used in healthcare. Repeated PDSA cycles with intervention modifications were conducted from 2015 - 2019. PDSA cycle 1 lasted seven months and included physician education on appropriate and inappropriate BiPAP use. Cycle 2 spanned three months, which was spent on the formal dissemination and adoption of the noninvasive ventilation guidelines as hospital policy. Cycle 3 spanned four months and focused on encouraging physicians to use pulmonary and/or palliative care consultations prior to starting BiPAP use. Cycle 4 spanned four months and implemented a stewardship model of interprofessional empowerment. This increased respiratory therapist responsibility for patient management, as they were empowered to ask questions or raise concerns about the appropriateness of BiPAP for the patient's clinical needs and the length of use. If concerns of the respiratory therapist could not be adequately addressed by the ordering provider, the therapist could escalate their concerns to pulmonary clinical leadership. Results indicated PDSA cycles, notably interprofessional empowerment interventions, led to a decline in LOT on BiPAP from an average of 5.5 to the goal of 3.54 days.

Keywords: clinical, psychology, hospital, quality improvement**Primary Author:**

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Poster Number: 48**Title:** Measuring Consumer Satisfaction and Efficacy of Psychoeducational Material

Abstract: We created a psychoeducational booklet intended to help facilitate productive conversations surrounding discrimination and depression. Studies have shown that psychoeducational materials can provide notable improvements in knowledge and awareness of medical conditions, as well as improve social and global functioning, consumer satisfaction, and quality of life (Lyman et al., 2014). In order to gauge the effectiveness and satisfaction of the psychoeducational material we created, the final product was shown to students and physicians to gain an understanding of its usefulness for the facilitation of race-related conversations and discussions of stress and depression. The booklet was shared with 68 students to collect data on satisfaction and efficacy with items rated on a 1-5 scale from (1) not at all to (5) very much. In the next phase, during qualitative interviews, physicians were shown individual pages from the booklet, then read the discussion questions and were asked to provide feedback. 92.96% of St. John's participants rated that using the booklet was helpful or very helpful ($M=4.45$). 88.73% of participants stated that they would be likely or very likely to recommend the booklet to other people ($M=4.39$). All physicians stated that they enjoyed the booklet. Most physicians enjoyed the simplicity of the language and felt that the booklet's questions could provide physicians with tools to have appropriate conversations with their patients. These findings confirm that the booklet has the capability to change how patients and providers speak about racial issues and depression that may initially be uncomfortable.

Keywords: psychology, consumer satisfaction, educational material

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Poster Number: 49

Title: Moral Injury and Dehumanization: Examining the Role of Psychological Distress

Abstract: An early epicenter of the COVID-19 pandemic, Italy faced significant burdens to healthcare systems and elevated occupational stress for healthcare providers (HCPs). Data from the early pandemic has highlighted the role of morally injurious events, (i.e., specific traumatic stress exposures characterized by violation of one's moral beliefs), as a highly prevalent occupational stressor. Moral injury has been linked with increased symptoms of burnout, post-traumatic stress disorder (PTSD), and depression in HCPs. In addition, moral injury may also shape relations of HCPs to their patients and colleagues through changes to humanization and dehumanization of others. Researchers have conceptualized humanization as attribution of uniquely human traits to individuals and dehumanization as attribution of a lower or non-human status. Prior research from our team has documented that moral injury event exposure is a significant predictor of increased dehumanization and decreased humanization of patients and colleagues in the context of COVID-19. However, the literature is unclear as to potentially exacerbating effects of psychological distress on these relations. This study aims to evaluate whether clinically significant symptoms of depression, burnout, and PTSD moderate relations of moral injury to humanization and dehumanization. The sample consisted of healthcare providers in Italy who completed online questionnaires from July 2020 to December 2020. Data indicated a negative association of moral injury with humanization of colleagues, but only in HCPs reporting clinically significant burnout. Results suggest that burnout may be a risk factor for changes to dehumanization/humanization in HCPs exposed to morally injurious events.

Keywords: Moral Injury, Mental Health, COVID-19

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Poster Number: 50

Title: Rumination as a Mediator of Relations Between Racial Discrimination and Depressive Symptoms

Abstract: Racial discrimination is a significant driver of racial disparities in mental health. Research has consistently documented a positive association between discrimination and depressive symptoms, but mechanisms of this relationship are still being examined. One of these mechanisms is rumination, a type of repetitive thinking involving persistent, recurrent, and uncontrollable patterns of negative cognition with a perseverative focus on one's own negative emotional states. Research has suggested rumination may account in part for relations between discrimination and depression. Recent studies support this theory with evidence for rumination as a partial mediator. However, gaps in knowledge remain. Firstly, most studies have evaluated these relations in younger samples. There is limited research available from adult lifespan samples including participants over the age of 25. Further, it is unclear if the potential mediating effects of rumination vary by the timing of exposure to discrimination. The current study examines the role of rumination in relations of both recent and lifetime discrimination to depression in a racially/ethnically diverse combined college and community adult lifespan sample (ages:18-85; N: 316). In separate mediation models controlling for age, gender, and race/ethnicity both past-week and lifetime discrimination showed significant indirect effects on depression through rumination. Direct effects of both past-week and lifetime discrimination on depression remained significant. The study provides evidence that rumination serves as a partial mediator of effects of both lifetime and recent discrimination on depressive symptoms, extending support for this notion to older adults and across timing of discrimination.

Keywords: Discrimination, Rumination, Depression

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Poster Number: 51

Title: Evaluating Sleep Quality as a Mediator of Relations Between Racial Discrimination and Executive Function Josama et al. 2023

Abstract: Racial discrimination is a psychosocial stressor manifesting in maltreatment toward individuals based on race or ethnicity. There is growing evidence that discrimination negatively impacts executive functioning. However, few studies have investigated potential mediators and moderators. One pathway through which discrimination may negatively affect executive functioning is the effect of discrimination on sleep and sleep quality. Many studies have linked discrimination with an overall decrease in sleep quality and duration. In turn, the literature suggests that poor sleep quality predicts deficits in a range of cognitive abilities, including executive function. However, sleep has yet to be examined as a mechanism in the link between discrimination and executive function. The current study aims to test the hypothesis that sleep quality partially explains relations of discrimination to two aspects of executive function: cognitive flexibility and working memory. We tested these hypotheses in a sample of students at a private Northeastern university and adults recruited from a local hospital medical center. Participants completed measures of demographic information, past-week discrimination, a 3-item questionnaire assessing sleep quality and sleep difficulties and computerized cognitive tests assessing executive function. We have previously reported findings linking recent discrimination (in the past week) with cognitive flexibility and working memory. In mediation models, we found a significant direct effect of discrimination on cognitive flexibility, but indirect effects through sleep quality were not significant for cognitive flexibility or working memory. Future studies may explore additional mechanisms that may explain the cognitive effects of discrimination.

Keywords: discrimination, executive functioning, sleep

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Poster Number: 52

Title: Historical Trauma and Ambulatory Blood Pressure Among American Indians and Alaskan Natives

Abstract: Historical trauma refers to the collective traumas experienced by a group with a shared identity (Evans-Campbell, 2008). The collective trauma of American Indians and Alaskan Natives (AI/AN) has included the loss of their family, land, and culture (Heart et al., 2011; Nutton & Fast, 2015). Previous research in AI/AN communities has found that historical trauma thinking is associated with mental health symptoms, including increased substance use and psychiatric distress (Beals et al., 2005; Garcia, 2020; Nutton & Fast, 2015). Only one study has explicitly examined historical loss thinking and a measure of cardiovascular risk, ambulatory blood pressure (ABP) among AI/AN and found that historical loss thinking was positively associated with systolic and diastolic blood pressure (John-Henderson et al., 2022). This study reported historical loss thinking was positively associated with systolic and diastolic blood pressure (John-Henderson et al., 2022). The current research explores the relationship between historical trauma and daily ABP in a sample of AI/AN adults. ABP was assessed in 20-minute intervals and participants self-reported historical loss. Controlling for posture, gender, and age, historical trauma was positively associated with 24-hour systolic but not diastolic ABP; effects were not significant after controlling for BMI, daily negative moods, and depression. Health habits may mediate some of the relation of historical loss thinking to BP.

Keywords: historical trauma, ambulatory blood pressure, Native Americans/Alaskan Natives

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Poster Number: 53

Title: Using latent class analysis to examine heterogeneity among physically restrained patients

Abstract: Previous research has revealed variations in rates of physical restraint use across hospital settings. While limited, evidence suggests these variations are partially due to non-clinical and contextual factors. The current study used latent class analysis to determine if there are distinguishable subgroups of restrained patients at a safety-net hospital. A four-class solution was identified with classes differing across sociodemographic and clinical factors. Class 1 was the smallest subgroup (19%, n =1101) and primarily composed of single male patients under age 55, with nearly half of these patients having polysubstance use. Class 2 was the largest and youngest subgroup of patients, with the highest proportions of patients identifying as Black (39%, n=871). Nearly 60% of class 2 held psychiatric diagnoses (57%, n=1,069), often with comorbid polysubstance use. Class 3 comprised the oldest subgroup of patients and the highest proportion of female patients (50%, n=656), with 60% of these patients having some form of a neurological condition (62%, n=824). Class 3 also had the highest level of disease severity, as measured by the Elixhauser Comorbidity Index (34%, n=452). In class 4, nearly 80% of patients were over age 55. The most common conditions in Class 4 were metabolic conditions (86%, n=1,113), followed by infectious diseases (36%, n=466) and acute neurological conditions (31%, n=404). Understanding differences within this population may aid clinicians in proactive identification of patients at risk for restraint and in tailoring preventative interventions prior to utilizing physical restraints.

Keywords: latent class analysis, physical restraint, integrative medicine

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Poster Number: 54**Title:** Historical Trauma and Negative Emotion Among Native Americans/Alaskan Natives

Abstract: Studies have shown that compared to other racial/ethnic groups, American Indians/Alaskan Natives (AI/AN) experience psychological distress at the highest rates (Brown-Rice, 2013). Historical trauma thoughts can cause psychological distress and are defined as thinking about generational trauma (Mohatt et al., 2014). Analyses test hypotheses about relations between historical trauma thinking and perceived discrimination, depression, and early childhood trauma. The sample consisted of 304 AI/AN adults residing in Colorado. Participants included 212 individuals (130 women, mean age = 43.6 years, range 18-78 years). Historical trauma was assessed with the Historical Loss Scale (Whitbeck et al., 2004). Depression was measured with the Centers for Disease Control Depression Scale-Revised. Daily negative mood was the average of daily electronic diary measures of sadness, anger, and nervousness. Racial discrimination was assessed using the Brief Perceived Ethnic Discrimination Scale – Community Version (Brondolo et al., 2005). The daily rumination score reflected the average responses to work and racism questions. Demographic variables, including gender, age, education, and history of forced removal from home were obtained through self-report. Results showed significant positive correlations between historical trauma and perceived discrimination. Relations were also found with subscales of perceived discrimination including stigmatization, threat, work/school, exclusion, depression, daily negative emotion, and daily mean rumination. After controlling for rumination, associations of historical trauma thinking to negative mood-related variables were no longer significant. In contrast, perceived discrimination was significantly positively associated with depression and daily mood. Associations of historical trauma thinking to negative mood variables were largely a function of rumination, including rumination about being treated unfairly. Further research to understand the mechanisms linking these variables to mental health is needed.

Keywords: discrimination, historical trauma effects, NA/AI population**Primary Author:**

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Poster Number: 55**Title:** Antiracism Statements from Medical and Health Organizations: Analysis of Readability

Abstract: In recent years, the role of structural racism in health has become more evident (Mackey et al., 2021), following wide dissemination of racial disparities in COVID-19 prevalence and mortality. Other notable events, including police killings of unarmed Black people and the rise of the Black Lives Matter Movement, brought attention to the problems associated with structural racism. In response to these events, many well-known medical organizations (e.g. the American Medical Association) have released anti-racism statements in response to widely disseminated evidence of structural racism. Research has examined the effects of mission statements, a similar type of organizational messaging (Alegre et al., 2018). Outcomes across industries have included performance improvement, mission impact on individuals, organizational ethics and values, and economic or financial value (Alegre et al., 2018). Overall, the data suggest that mission statements can have a beneficial effect. However, effective statements must be comprehensible to the varied audiences they are intended to serve. One factor that might impact the effectiveness of an anti-racism statement is whether it is written in clear and simple language. Poor readability has been found to represent a challenge for effective communication and successful implementation of the goals of an organizational mission statement (Cortes et al., 2022). In this investigation, we sought to determine the readability levels of anti-racism statements from prominent medical/health organizations. We examined the reading and difficulty levels of anti-racism statements from 10 medical organizations using the Flesch-Reading Ease Scale. Data indicated that all statements had Flesch-Kincaid reading levels above college level. The difficulty level of these statements may reduce their effectiveness. Future studies should examine whether the readability of anti-racism statements directly impacts their effectiveness.

Keywords: Anti-racism, Mission Statements, Readability

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Poster Number: 56

Title: Does Religiosity Protect Against the Dehumanizing Effect of Moral Injury for Providers Responding to COVID-19?

Abstract: Moral injury is associated with dehumanization and burnout in health care providers (HCPs). Religiosity, the extent to which one's faith/beliefs are a core part of identity, may buffer the effects of moral injury on dehumanization. To test hypotheses about the moderating role of religiosity in the relations of moral injury on dehumanization a web-based questionnaire was administered to a convenience sample of Italian HCPs from July 2020-December 2020—during a period of recovery in Italy after the first wave of the pandemic. Dehumanization/humanization were assessed using The Humanity Trait Attribution Scale which investigates the attribution of human and non-human traits to one's in-group- and out-group-members. Religiosity and beliefs about life after death/immortality were correlated greatly through a positive association between moral injury event exposure and dehumanization of patients. Moral injury was assessed using the Moral Injury Events Scale. Religiosity was measured using a single item, rated on a three point Likert scale which was recoded into two categories for analyses. Beliefs about death were assessed using a two-item scale rated on a 5 point Likert scale, with higher scores indicating more beliefs in immortality. Moral injury exposure was negatively associated with humanization of colleagues. Among HCPs responding to COVID-19 in Italy, higher levels of religiosity significantly moderated the relationship between moral injury and dehumanization of patients and colleagues, such that higher levels of religiosity attenuated the association of moral injury to dehumanization. Data suggest that religiosity and beliefs in life after death help HCPs maintain human connection during moral injury.

Keywords: Clinical Psychology, Moral Injury, Dehumanization

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Poster Number: 57

Title: Development of Novel Multifunctional Molecules as Potential Candidates for the treatment of Cancer, Infectious Diseases and Neurodegenerative Disorders

Abstract: The multifaceted nature of cancer and neurodegenerative diseases suggests that an effective treatment might require a multipronged approach to simultaneously combat several pathological features. Traditionally drugs have been designed with the objective of targeting a single biological entity with high selectivity to minimize side effects. However, the complexity of current incurable pathologies has demonstrated that such single target approach is inadequate to achieve maximum therapeutic effects. Current efforts have therefore been focused on the development of new multitarget drugs. This project further contributes to the renewed thrust towards the generation of new antibacterial antineoplastic agents to treat infections caused by pathogenic strains resistant to commonly available agents, and as new chemotherapeutic agents.

Keywords: Organic Chemistry, Antibacterial Antineoplastic Agents, Infectious Diseases

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Poster Number: 58

Title: Development of Novel Multifunctional Molecules as Potential Candidates for the treatment of Cancer, Infectious Diseases and Neurodegenerative Disorders.

Abstract: The multifaceted nature of cancer and neurodegenerative diseases suggests that an effective treatment might require a multipronged approach to simultaneously combat several pathological features. Traditionally drugs have been designed with the objective of targeting a single biological entity with high selectivity to minimize side effects. However, the complexity of current incurable pathologies has demonstrated that such single target approach is inadequate to achieve maximum therapeutic effects. Current efforts have therefore been focused on the development of new multitarget drugs. This project further contributes to the renewed thrust towards the generation of new antibacterial antineoplastic agents to treat infections caused by pathogenic strains resistant to commonly available agents, and as new chemotherapeutic agents.

Keywords: organic chemistry, antibacterial antineoplastic agents, infectious diseases

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Poster Number: 59

Title: Mental Health Symptoms Among Clients Starting Therapy during COVID

Abstract: The Covid-19 pandemic was impactful during 2020. Some have experienced mental health symptoms during lockdown. Using research data from community mental health centers we examined results from patients who started therapy before and after the pandemic. As a result we suspect that symptoms were actually reduced in certain domains.

Keywords: Covid-19, Mental health symptoms, therapy

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Poster Number: 60

Title: Differential Attention to Personality Characteristics: People Attend Most to Conscientiousness in Their interaction Preferences

Abstract: Across 36 eye-tracking trials, 47 participants viewed information about a target's Big Five personality profile. Results provide strong evidence (Bayes Factor = 64.3) that people differentially attend to different personality characteristics. The most attention is paid to Conscientiousness and the least to Neuroticism.

Keywords: eye-tracking, personality, attention

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Poster Number: 61

Title: Age Differences in the Amount of Time it Takes to Formulate a First Impression using Eye Tracking Technology

Abstract: We recruited participants to partake in a personality study using eye-tracking technology. The participants rated their preference for interacting with the described person in the described situation. We are interested in finding out whether a younger or older sample of people are quicker to make a first impression based on the time it takes for them to choose a preference rating. We collected data from both an undergraduate sample and a graduate sample. When recruiting participants, they were asked to fill out a demographics survey asking questions regarding gender, race, etc. We administered the 120 IPIP Items to assess the NEO-PI-R Five which assesses participants' personality traits prior to the experiment. Then, the participant is asked to come into the eye-tracking lab to participate in the experiment and be tested using the Eyelink 1000 plus Eye-Tracking apparatus. During the experiment, the participant completed 36 trials that consisted of 12 personality profiles and 3 situational profiles. Each participant viewed each trial for 20 seconds and then completed a question after the trial that asked the participants to rate their preference for interacting with the described person in the described situation, and in the other condition, they rated their preference for being in the described situation with the described person. Trials were administered in random order and the machine was calibrated for each participant. Each participant completed 2 practice trials prior to the actual experiment.

Keywords: attention, personality, eye-tracking

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Poster Number: 62

Title: The Conceptualization of Psychopathology in African Contexts: A Systematic Review of Emic Approaches

Abstract: Psychologists have become increasingly aware that claims about the universal human experience can no longer be made from the thin slice of the worldwide population represented by individuals from North America and Europe. To date, little research has investigated the nature of psychopathology across cultures, and mental health classification systems, developed in Western contexts, may be limited in identifying (and subsequently treating) mental disorders globally. In this systematic review, our focus is on emic (a cultural-specific understanding of symptoms through the eyes of a cultural insider) approaches to the study of psychopathology. We ask what conceptualizations of psychopathology emerge out of African contexts? Drawing on a diverse literature (from anthropology to psychology), we consider the methods, which have been used to describe psychopathological states in African countries. By centralizing indigenous modes of explaining and treating psychopathology in Africa, the review should improve our understanding of the role culture plays in constructing psychological disorder symptoms with the ultimate goal of deriving and suggesting new frameworks for overcoming the limitations of Western paradigms to psychopathology and its treatment.

Keywords: emic approach, Psychopathology, cultural studies

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Poster Number: 63

Title: All Symptoms Are NOT Created Equal: Identifying Optimal Cut-Points in Symptom Count Measures Using Item Response Theory and Signal Detection

Abstract: Binary scoring that indicates the presence or absence of symptoms are psychometrically more defensible and clinically more transparent than traditional Likert scales. The challenge is determining the optimal cut-point, which may differ by symptom. The proposed study aims to use Item Response Theory (IRT) and signal detection to differentiate symptoms endorsed on the OQ-45.2 (a widely used measure of mental health symptom occurrence) based on how they relate to the underlying latent trait of distress (theta). This information will be used to create a binary scoring model based on different, optimal cut-points for each item. Data will come from existing clinical databases available from mental health clinics that use standard symptom measures such as the OQ-45.2 or the CES-D. Samejima's Graded Response Models will be used to generate discrimination and difficulty parameters for each item. Receiver operating characteristic (ROC) analyses will be used to assess the diagnostic accuracy of each binary cut-point by plotting sensitivity and specificity against varying values of underlying "distress." The IRT parameters and ROC results will be considered in tandem to determine optimal cut-points for each item. We hypothesize that item-difficulty and sensitivity will vary across symptoms based on the cut-point used, and accounting for this variation will improve item validity.

Keywords: psychometrics, mental health, psychology

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Poster Number: 64

Title: Relationship Quality in Emerging Adults and their Parents: Coercion, Anxiety and Depression.

Abstract: Growing autonomy and reduced parental influence are developmental transitions emerging adults experience. However, this developmental transition can be associated with greater conflict, reduced emotional closeness, and a coercive pattern of behavior. These negative characteristics of the parent-child relationship can create higher risk of depression and anxiety and other mental health symptoms in the emerging adult. The focus of the proposed research is on factors that predict the relationship quality of the emerging adult-parent relationship and outcomes in the emerging adult associated with the relationship quality. Specifically, we will focus on demographic factors such as the emerging adult's sex, residential status, religion, ethnicity, culture, and SES as direct and interactive predictors of relationship quality. Outcomes that are associated with relationship quality will include, mental health symptoms such as anxiety and depression as well as self-esteem, hope, and positive and negative affect. We hypothesize that younger men will report greater disagreements and conflict than women and older men; culture and ethnicity will be related to regard for parents. Children living with parents will report more conflict and disagreements. Regarding outcomes, relationships with fewer negative characteristics will be associated with fewer negative outcomes and more positive outcomes. We will collect self-report data from a minimum of 200 emerging adults using an online survey. We anticipate that the results will provide insight into factors that impact relationship qualities between emerging adults and parents—increasing our understanding of both positive and negative consequences associated with different characteristics of the emerging adult-parent relationship.

Keywords: Emerging Adults, Autonomy, Developmental Psychology

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Poster Number: 65

Title: People Pay More Attention to Information About Persons than Situations: An Eye Tracking Study of Preference Judgements

Abstract: Across 36 eye-tracking trials, participants (N= 47) viewed experimentally crossed combinations of information about the target personality and situational demand situational demands. This followed participants to rate their preference for interacting with the described person in the described situation, and in the other condition, they rated their preference for being in the described situation with the described person. Results provide moderate evidence (Bayes Factor = 3.6) that people spend more time on person information than situation information (8.6 versus 7.4 seconds, respectively).

Keywords: eye-tracking, attention, personality

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Poster Number: 66

Title: Exporting the Western Paradigm of “Mental Disorders”: A Systematic Review of Etic Approaches to Research on Psychopathology in Africa

Abstract: Within the field of psychopathology, the imposition of Western models for explaining and treating psychological distress on majority-world contexts (e.g., in Africa) may be inappropriate and even harmful. Here, we broadly review research that has focused on identifying psychopathology in majority-world, African contexts using Western models of explaining and treating mental illness. We pose the research question: How have western conceptualizations of psychopathology been applied to African contexts? Our review takes a methodological approach, summarizing techniques used to describe psychopathological states in African countries and synthesizing findings. Our focus is on etic (imported systems from outside cultures to assess for universal aspects) studies. We consider where etic approaches to the study of psychopathology have been undertaken in African contexts and the major developments. Overwhelmingly, etic methods often rely on quantitative evaluations (e.g., factor analysis) techniques. By discussing the methodological limitations of these approaches and considering local models of psychopathology, the review has the ultimate goal of deriving and suggesting new frameworks for overcoming the limitations of etic approaches.

Keywords: Psychopathology, Etic, Africa

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Poster Number: 67

Title: Eye on the Numbers: Investigating Numeracy and Base-rate use in an Eye Tracking Paradigm

Abstract: When statistical/numeric and stereotype information conflict, people will typically rely on the latter. However, more numerate people – those who are more numerically literate – have been shown to make more use of statistical information on these tasks. This effect has been difficult to test experimentally (i.e. with random assignment) as researchers typically consider numeracy to be a stable “trait”, i.e., some people are “better” with numbers. However, numeracy may instead be considered a “state”: how likely a person is to make use of numbers in the moment. Prior research suggests completing math tasks can increase use of numerical information in subsequent judgment tasks. This may occur because numerical priming causes participants to focus more on numerical information, essentially increasing their state-numeracy. If so, such increase in numerical focus should be detectable in eye-gazes. We plan to test this using an eye-tracking paradigm. Participants will be randomly assigned to experimental and control conditions. Experimental participants will complete a series of math problems at the beginning of the study, while control participants will not. All will then make category judgments about situations including both stereotype and numerical information, then complete a numeracy evaluation. We hypothesize 1: The experimental group will make more use of numerical information than the control; 2: The experimental group will gaze longer at numerical than stereotype information relative to the control; and 3: Eye-gaze on numerical information, relative to stereotype information, will predict judgments. Additionally, judgments and eye-gaze alike should correlate to performance on the numeracy task.

Keywords: cognition, judgment, decision-making

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Poster Number: 68**Title:** Play to Actually Win: Piloting a Practical Temporal Discounting Measure with Real Payouts

Abstract: Temporal Discounting (TD) refers to people's tendency to prefer immediate to delayed rewards. Most TD measures are hypothetical, and measures treated as "paid" tasks typically do not give payouts for every trial. Rather, they are lotteries—only paying a small random subset of trials. This is a problem, as hypotheticals may not be treated the same way as tasks with real payouts. Here, we set out to develop a TD measure with real payouts for all items, which could be practically implemented with medium to large samples. The goals of the measure were: A) The measure captures the range of variability within the population; B) The average total payout per participant falls within the bounds of normal participant pay (i.e. typically \$5-\$15, rarely exceeding \$20); C) The total number of payouts per participant is manageable (i.e., not so many payouts that the researcher would lose track). Three cohorts of 50 participants were recruited online via the Prolific Platform (N = 150). Participants completed a TD task, and received real money at specified times. Participants were asked to judge if they want a small monetary value "today" or a greater value after a delay. We met our goals: Our task captured the variability in participants' Temporal Discounting preferences, participant pay was within normal bounds, and the four payment time-points were manageable. There is now a multi-item measure to assess TD where each item can be practically paid out. Future work will test if actual pay effects preferences as compared to hypotheticals.

Keywords: Temporal discounting, judgement, decision making**Primary Author:**

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Poster Number: 69**Title:** Can having a Companion Animal Improve One's Mental Well-being?

Abstract: Young adults experience a lot of upheaval and pressures, so they may want a companion who would wait for them and provide them with emotional support and bring in positivity. The hypothesis of this research is that people who do have companion animal/ pets (Group A or Group B) will have a better score on the well-being scale as compared to Group C (Having a companion animal/pets [whether they could see them on daily basis or not] are more likely to perform better than those who do not have pets at all because they are aware that they are being missed/wanted back home). Hence, there is a prediction that Group A and Group B will perform better than Group C. Data was gathered from 47 participants who were undergraduate psychology students at St. John's University. No respondents were excluded from the survey. Warwick Edinburgh Mental Well-Being Scale (WEMWBS) was used to administer the mental well-being score. It is a 14-item scale to measure subjective well-being in adults ≥ 16 years. In addition, a question was formed to assess the frequency of having a pet or not having at all, through the software called Qualtrics. According to the findings, Group A scored somewhat higher ($M = 48.087$, $SD = 8.634$) on measures of mental well-being than Group C ($M = 44.125$, $SD = 10.322$). However, the results did not reach the significance level. To conclude, even though the study failed to reject the null hypothesis ($p = 0.161$ is not significant at $p < 0.05$), the possibility of that still exists. Future studies might spend more time gathering information and perhaps look at various facets of the human-pet relationship.

Keywords: Companion animals, influence, mental well-being**Primary Author:**

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Poster Number: 70

Title: Topical cream carrying drug-loaded nanogels for melanoma treatment

Abstract: In this study, nanogel creams carrying paclitaxel (PTX) and temozolomide (TMZ) were prepared for the topical treatment of melanoma. PTX and TMZ were first loaded in poly-(D,L-lactide-co-glycolide)-block-poly(ethylene glycol)-block-poly-(D,L-lactide-co-glycolide) thermosensitive nanogels, which made a transition from a free-flowing sol (formation of micellar network) at 25°C with the z-average particle size of c.a. 96 nm to a gel (aggregation of micelles) at 33°C with the z-average particle size of c.a. 427 nm. An anhydrous absorption ointment base, aquaphor, was then added to drug-loaded nanogels to form nanogel creams carrying PTX and TMZ. Nanogel creams permitted controlled release of the payloads and improved the penetration of the payloads through the rodent skin compared to drug(s)-loaded nanogels. PTX and TMZ in a combination were synergistically effective in inhibiting SK-MEL28, A375, and B16-F10 melanoma cancer cells in vitro. Topically applied nanogel creams carrying TMZ/PTX (4 mg/1.5 mg/dose) showed a trend of tumor volume inhibition on B16-F10-bearing xenograft mice in vivo.

Keywords: nanogel cream, melanoma treatment, skin permeation

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Poster Number: 71

Title: Period poverty at St. John's University and the assessment of menstrual cups as a potential solution

Abstract: The aim of this study is to assess the scope of menstrual poverty, menstrual education, and general attitudes towards menstrual cups and other alternative, reusable feminine hygiene products amongst St. John's University students, professors, faculty, and staff, on the Queens campus, given the potential for positive economic and environmental outcomes of reusable products. The findings of this research will help to inform potential actions that could be taken through the pilot project. The research and the pilot project seek to add to our knowledge about the needs of St. John's community members who menstruate so as to inform and render more effective future interventions to create a more inclusive and equitable community where everyone can access the resources they need.

Keywords: menstrual poverty, menstrual health, women's issues

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Poster Number: 72

Title: Off-the-Shelf Small Scale Photovoltaic Systems for Puerto Rico Sustainable Farms: Assisting those Who Help Others

Abstract: Puerto Rican small-scale sustainable farms struggle to provide wholesome food, preserve traditional methods and seeds, pass lessons on to the next generations and are an oasis of shelter, food, water, and electric power in times of crisis. Since these efforts are certainly not fueled by greed or profiteering, appropriate technology must be cost-effective, long-lasting, on-site repairable, ecologically compatible with the environment, and in some cases, have long-term technological support. Small grids must be carefully sized to provide daily daylight electrical usages, such as water pumping, water purification, and refrigeration. While not necessarily large enough to charge batteries for routine overnight and multiday usage. Since batteries have finite lifetimes that are discharge cycle dependent, costs can easily exceed \$0.20/Watt; therefore, daylight use of solar power should be prioritized. However, battery and water storage must be large enough to cover prolonged sunless days. Agricultural water pumping is an ideal, primary application of photovoltaic power as energy is converted into stored water at a minimal cost. The collaboration between Non-Government Organizations, Academic Research Team, and a Sustainable Farm has developed low-cost off-the-shelf engineered solutions and reinforced these support structures that provide long-term, low-cost assistance that adapts to changing needs of the community.

Keywords: sustainable farming, photovoltaic grid, water purification

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Poster Number: 73**Title:** Chlorophyll-A and Chlorophyllin Charge Transfer and Applications to New Green Solar Cells

Abstract: Research designed to elucidate the environmental influence on chlorophyll a absorption found a light scattering/light absorption was strongly dependent on the ambient solvent permittivity. Where low permittivity results in light scattering and high permittivity (e.g., water) results in absorption. The previous research found that chlorophyll a and closely related synthetic sodium-copper-chlorophyllin are vastly more likely to scatter light when in a low permittivity ambient and conversely more likely to absorb light (and excite electrons) in a high permittivity ambient such as water. Based on these observations, we were able to design a new type of solar cell wherein the observed permittivity sensitivity of chlorophyll was exploited to position absorption (and charge transfer) near to an electrode. These solar cells function by converting light energy into electrical power. We have achieved voltages of ~ 700 mV and observed that these solar cells had of the unique property of maintaining collected charge. New measurement techniques were developed to overcome this hysteresis (charging effects). The photovoltaic cells offer exciting prospects for a new lower cost solar cells, while also providing a new means by which to directly observe charge transfer in chlorophyll and related molecules.

Keywords: Solar cells, photovoltaic batteries, charge transfer**Primary Author:**

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Poster Number: 74**Title:** The Disproportionate Effects of Climate Change on Low-Income Communities

Abstract: The purpose of my research is to analyze the disproportionate effects of climate change on low-income communities in Queens, New York. My ultimate research analysis will include further proposals and actions to be taken to mitigate the observed effects. I will be working in collaboration with a local community organization to conduct research in the form of surveys and individual interviews to yield the most comprehensive results. The surveys and interviews will provide subjects the opportunity to express themselves and let their voices be heard. It is important to me that my research is community driven, as this allows for the greatest potential benefits to the community as I will be facilitating a space for productive communication and conversation. Each community is a microcosm of the larger world. There is climate injustice across the country. Although my research will provide insights into a smaller, local community, this research will be applicable to any community struggling with the disproportionate effects of climate change. Climate justice is an increasingly important topic of study. Communities across the country are facing climate disasters exacerbated by exponentially increasing global warming. It is crucial that we continue to study and analyze these effects to mitigate damages and protect the most vulnerable populations who struggle even more to recover from climate related challenges.

Keywords: Climate change, environmental justice, low-income communities**Primary Author:**

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Poster Number: 75

Title: Improving Healthcare Disparities for Infant in Ecuadorian Communities

Abstract: This project seeks to answer the question of how healthcare for infants with diseases, disabilities, and illnesses can become more efficient and practical for families in the Ecuadorian communities of Valle and Yunkuankas. I will explore the trends, opinions, and potential gaps within the research topics, including the effects of a low-income status on infant health, the quality and quantity of healthcare options currently available for families in these communities, evaluations of the quality and inequities present within the field of healthcare, and solutions for making healthcare for infants more available and efficient. In addition, this project will highlight the positive and negative aspects of different healthcare options offered to families with sick infants in Ecuador and will compare viewpoints regarding the availability of affordable and quality healthcare for this population.

Keywords: healthcare, disparities, infant studies

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Poster Number: 76**Title:** Synthesis of analogs of cyclic adenosine diphosphate ribose

Abstract: Synthesis of analogs of cyclic adenosine diphosphate ribose Cyclic adenosine diphosphate ribose (cADPR) is a critical messenger responsible in signalling of calcium release, an important step in muscle contraction. To this day, its exactly mechanism of action and the receptor it targets has been unknown. Previous studies indicate the stereochemistry of the furanose rings is critical in its function, with small changes in functional groups on the ring causing significantly different effects on calcium release in cells based on the stereochemical change induced on the rings. To better understand its effects, functional analogs of cADPRs are desired to better understand the role of its structure on its mechanism of action. With commercially available 3'-OMe-adenosine as the starting material, phosphorylation and coupling with nicotinamide mononucleotide following a procedure reported by Michelson, A. M., the 3'-OMe analog of NAD, the precursor to cADPR synthesis has been produced. Cyclization from naturally available enzymes is then followed to produce the desired cADPR analog for further study.

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Poster Number: 77**Title:** cADPR Analogues: The Effect of 2' Substitution on Conformation

Abstract: Cyclic adenosine diphosphate ribose (cADPR) is a critical messenger responsible in signalling of calcium release, an important step in muscle contraction. To this day, its exactly mechanism of action and the receptor it targets has been unknown. Previous studies indicate the stereochemistry of the furanose rings is critical in its function, with small changes in functional groups on the ring causing significantly different effects on calcium release in cells based on the stereochemical change induced on the rings. To better understand its effects, functional analogs of cADPRs are desired to better understand the role of its structure on its mechanism of action. With commercially available 3'-OMe-adenosine as the starting material, phosphorylation and coupling with nicotinamide mononucleotide following a procedure reported by Michelson, A. M., the 3'-OMe analog of NAD, the precursor to cADPR synthesis has been produced. Cyclization from naturally available enzymes is then followed to produce the desired cADPR analog for study.

Keywords: biochemistry, synthetic chemistry, conformational analysis

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Poster Number: 78

Title: Play Ball! Baseball and Dominican Resistance to American Imperialism and the Trujillo Regime

Abstract: The 1916 American Marine occupation of the Dominican Republic altered the political and social landscape of the island-nation through setting the stage for Rafael Trujillo's eventual rise to power, but also through officially establishing a national obsession with baseball that exists to this day. The American Marines' successful attempts to popularize baseball were carried out with the intention of subduing all resistance to the occupation and to propagate ideals of American exceptionalism. However, this proved to be unsuccessful, with baseball becoming a central part of Dominican society, unifying Dominicans against the occupation. After the American departure from the island in 1924, Trujillo took power on August 16, 1930, marking the beginning of thirty-one years of repression and violence. Just as Dominicans utilized baseball as a means of resisting American imperialism, they also used it to resist and protest against the Trujillo regime. This research aims to understand how baseball became a critical part of Dominican society, not simply as the national pastime, but as a way of protesting against the American occupation and resisting the oppressive and tyrannical regime of Trujillo. This research further aims to understand the importance of baseball in Dominican society—with it being one of the few aspects of Dominican life that Trujillo failed to monopolize and control.

Keywords: Baseball, Dominican History, American Imperialism

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Poster Number: 79

Title: Analyzing the structure of SARS-CoV-2 spike protein via crosslinking mass spectrometry

Abstract: SARS-CoV-2 spike protein was crosslinked, ran on an SDS-PAGE gel, and enzymatically analyzed with trypsin and chymotrypsin before being subjected to tandem mass spectrometry. When applied to spike, the crosslinking mass spectrometry yielded structural constraints longer than expected values according to published structures. Data was analyzed in order to determine if lysine residues in overly long crosslinks localize to loops in the protein structure which are likely to be highly mobile and undergo conformational changes.

Keywords: Biology/Chemistry, protein structure analysis, mass spectrometry

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Poster Number: 80

Title: Mapping Protein Binding Sites Between SARS-Cov-2 Nucleocapsid and Llama Nanobodies

Abstract: Chemically crosslinked SARS-Cov-2 nucleocapsid and nanobodies. Ran samples on an SDS-PAGE Gel. Enzymatically analyzed with trypsin and chymotrypsin. Subjected samples to tandem mass spectrometry. Computationally analyzed experimental data using softwares pLink and pLabel. Analyzed data to determine binding sites. Created visual representation of protein binding sites.

Keywords: SARS-Cov-2, Biochemistry, Crosslinking

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Poster Number: 81

Title: Development of whole cell biosensors for early detection of Oral Squamous Cell Carcinoma

Abstract: The construction of sensors for early detection of disease biomarkers has enormous potential for the future of immunotherapeutics. With an array of synthetic biology tools, we can assemble whole-cell biosensors (WCB) that utilize the innate ligand messenger cascades that cells undergo in-vivo. In short, if one can identify a disease biomarker and its specific binding domain, they can construct a biosensor that promotes the transcription of an observable effector upon said binding. We have set out to build the framework for this promising biotechnology and are working with hallmarks of oral squamous cell carcinoma, a cancer that accounts for 80% of all malignant neoplasms of the oral cavity. Two main salivary biomarkers are consistent with the early detection of OSCC - Neu5Ac and L-Pip. Our current focus is with Neu5Ac and its specific binding to two ligand binding domains (LBD) known as SatA and SiaP. To construct the signal processing unit for this WCB, we created a novel transcription factor called a “chimera”. This is a fusion of our LBD with our DNA binding domain, LacI- a regulatory transcription factor that confers strong binding affinity to our LBD. An expression plasmid takes up this insert, and a reporter plasmid validates the binding of our disease biomarker to our chimera. Our current research involves the assembly of the chimera and subsequent validation of its binding affinity using expression levels of visible GFP transcribed by our reporter plasmid. This technology promises enormous gains in the early detection and treatment of malignant pathologies.

Keywords: biosensor, cancer, chimera

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Poster Number: 82

Title: Characterization of RNA Temperature Dependent Thermometers for their Deployment in a Biological Containment System

Abstract: RNA Thermometers are RNA sequences capable of modulating gene expression in response to a fluctuation in temperature. These thermometers function by altering their secondary structure in response to a temperature change. Found in the 5' UTR region of messenger RNA, the thermometers are able to sequester the ribosome binding site at non-permissive temperatures, thus preventing translation of the mRNA into a protein. The most compact and effective RNA thermometers possess a single hairpin-like structure displaying a small number of mismatched base pairs in the stem. The secondary structure unravels at permissive temperatures, unfolding as a response to an increase in temperature. The purpose of our research is to develop a modified bacterial strain that 1) constitutively expresses a toxin, and 2) produces a protective antitoxin, modulated by a RNA thermometer, so that the system is stable at 37°C or above. The host bacterial strain can only survive at the temperatures at which the RNA thermometer enables the expression of the antitoxin, whereas below such a temperature, the expression of the protective gene is lost and the engineered bacteria is destroyed.

Keywords: biocontainment, microbiology, genetic modification

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Poster Number: 83

Title: Resource allocation after natural disasters

Abstract: My research aims to combat the disparities in resource allocation, specifically in developing communities after a natural disaster

Keywords: Resources, funding, natural disaster

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Poster Number: 84

Title: Efficacy of Olaparib and p53 Reactivators, Separately and Combined, to Overcome PARP Inhibitor Resistance in Ovarian Cancer Cells

Abstract: Ovarian cancer is the most lethal gynecologic malignancy, resulting in only 16-21 months median progression free survival. Ovarian cancer patients are typically prescribed PARP inhibitors for maintenance therapy following initial surgery and chemotherapy. PARP (poly ADP-ribose polymerase) is a protein that participates in base excision repair (BER), a DNA repair pathway. Inhibition of PARP leads to inhibition of BER and the subsequent buildup of single-stranded breaks in DNA. Single-stranded breaks lead to double-stranded breaks, which leaves the cancer cell dependent upon pathways such as homologous recombination (HR). The protein BRCA is one of many that takes part in HR; hence, in cancer cells with mutated BRCA, PARP inhibitors prevent DNA repair and result in cell killing. However, patients commonly develop resistance to PARP inhibitors over time, and alternative treatments are urgently needed. In addition to BRCA mutations, about 90% of ovarian cancers exhibit mutations in the tumor suppressor p53. Since reactivating the normal p53 functions inhibits cancer proliferation, we hypothesize that using p53 reactivators alone or in combination with PARP inhibitors can reverse or prevent PARP inhibitor therapeutic resistance. High-grade serous ovarian cancer (HGSOC) COV362 and PEO1 cells, harboring both BRCA and p53 mutations, were analyzed to determine the effectiveness of p53 reactivator drugs (APR-246 and HO-3867) and a PARP inhibitor, olaparib, both separately and combined. Results indicate that COV362 and PEO1 HGSOC cells are resistant to olaparib but highly sensitive to the HO-3867 and olaparib combination, thus supporting our hypothesis.

Keywords: cancer, drug resistance, DNA repair

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Poster Number: 85

Title: Recollected Family Environment and its Associations with Personality Dysfunction in Undergraduates

Abstract: Introduction: Hierarchical dimensional models of psychopathology like the HiTOP model (1) are receiving increased research attention. However, there is a dearth of research on the psychosocial and developmental antecedents of personality dysfunction (1). This study asks whether a brief measure of family environment has incremental validity in the prediction of adult personality dysfunction above beyond measures of parental bonding. Methods: Undergraduate students (N=736) participated. The sample was 78.7% women, 68% non-white, with a mean age of 19.2 (SD = 1.4). Measures. Ten-Item Personality Inventory (TIPI; 2) has two items assess each of the Big Five personality traits. Personality dysfunction was assessed with a ten-item version of the PID-5-BF (3). Parental Bonding Instrument – Brief Current (PBI-BC; 4) assessed perceived maternal and paternal care and control. Family Environment Adjective Checklist (5) – Positive Family environment and Negative Family environment were measured using three adjectives per scale. Design. Cross-sectional, correlational. Data analysis. Correlation and multiple linear regression. Results: Measures of parental care were significantly negatively correlated with dimensions of personality dysfunction, while measures of parental control showed positive correlations. In regression models, parental bonding explained from 7.2% to 15.5 % of the variability in dimensions of personality dysfunction. When Negative-Family and Positive-Family were added, R² Change significantly increased for all dimensions of personality dysfunction. Discussion: Future research should continue to examine the psychosocial, developmental, and environmental variables that putatively play a causal role in emerging adult personality. Longitudinal research could play a role in establishing a stronger causal link between family and parental effects on personality.

Keywords: family environment, personality dysfunction, parental bonding

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Poster Number: 86**Title:** Anger and Irrational Beliefs in the Hierarchical Taxonomy of Psychopathology (HiTOP)

Abstract: Introduction: The HiTOP Model aims to address the limitations of traditional diagnostic strategies by adopting a hierarchical, dimensional framework with one higher-order super-spectrum of psychopathology and six spectra. Using Structural Equation Modeling, we hypothesized that anger would load onto the Antagonistic Externalizing Spectrum while irrational beliefs would load onto the Internalizing spectrum. Methods: Undergraduates (N=341) participated. Participants completed parts of six questionnaires (1-6) to represent the six spectra of the HiTOP Model and related subfactors. For the hypothesized Model, participants completed the Anger Disorders Scale (11-ADS; 7) and the Attitude and Beliefs Scale (ABS; 8), a measure of irrational beliefs. Results: A one-factor Model with all observed variables loading onto one higher-order psychopathology super-spectrum served as a control Model. Results showed a poor fit for Model one and a somewhat improved fit for Model two (the basic HiTOP Model). In Model three, the addition of anger and irrational beliefs enhanced the overall model ($\chi^2 = 742.45$, $df = 115$, $p = .001$), and the fit was better ($RMSEA = .127$, $CFI = .807$, $TFI = .772$) than for Models one and two. Discussion: Results showed that the HiTOP model provides a better overall estimate of higher-order psychopathology than a one-factor model. Our findings also suggest that adding anger to Externalizing-Antagonism and irrational beliefs to the Internalizing spectrum improved model estimates and fit. Future research should continue to examine the validity of hierarchical, dimensional models of psychopathology.

Keywords: psychology, personality, psychopathology

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Poster Number: 87

Title: Why do those in America, but more specifically New York, become homeless? How serious are these individuals' drug and mental problems, and what has the public response been? What intervention methods can we either invent or implement from other countries

Abstract: My research question is why do those in America, but more specifically New York, become homeless? How serious are these individuals' drug and mental problems, and what has the public response been? What intervention methods can we either invent or implement from other countries to see a substantial change that will remain? I would like to do this because New York has one of the highest rates of homelessness in America. With the literature that I have read and the studies that I will be undertaking, I hope to find out the root of these issues and how we can prevent them. I also would like to see what methods are currently being used to solve homelessness and if there is a better solution. The best way to do this would be to mix descriptive studies and experimental studies. I say this since my research will ask how these issues start and what is necessary to fix the problem. To ensure external validity, I would like to look at which other countries have implemented Housing First and why it works. For example, many countries in Europe use Housing First. It has been shown to improve people's lives, lower rates of homelessness, and overall be cheaper than the current Continuum of Care programs in America. Using sources such as Finland virtually getting rid of homelessness, the TedTalk with John Maceri, and John Oliver's segment on homelessness, it is important to inform the public that we could be doing a service to everyone by implementing Housing First.

Keywords: Housing First, Descriptive Studies, Interviewing

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Title: The Psychology of White Collar Criminals

Abstract: The research conducted here will look at white collar criminals and the combination of legal aspects and psychology of the people behind them. White collar crimes, such as money laundering, fraud and public corruption are crimes committed by people with power, ranging all the way to people with power; government officials, corporate executives and charismatic entrepreneurs. People who commit high-profile crimes like these tend to carry power or influence and are charismatic; those like Elizabeth Holmes and Sam Bankman-Fried. The reason behind why these people in such high positions commit these crimes can be connected to psychological disorders such as narcissistic personality disorder and psychopathy. White collar criminals use tactics that most professionals use in the business and work environment to manipulate those they are targeting into giving them what they want; most of the time it being money. Most relevantly, Elizabeth Holmes and her pseudo-business Theranos, which stole hundreds of millions of dollars from people investing in a seemingly profitable business, only for it to prove to be a fraud. Like so many other white-collar criminals, Holmes proved to be charismatic and well-spoken to gain the money from others. The psychology behind the people who commit these crimes is becoming more and more prevalent as people begin losing more money due to these crimes, and with the advent of cryptocurrency, understanding the psychology behind the people who commit and continue to commit these crimes can help the criminal justice system better understand who the people are behind these crimes.

Keywords: psychology, white collar crime, criminology

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Title: Social Media Use and Body Shape Perception in Emerging Adults

Abstract: Emerging adulthood is a period when individuals interact with their support networks and environments to achieve independence which is characteristic of adulthood (Wood, 2018). Emerging adults are continuously exposed to beauty ideals on social media, which may impact views of their bodies relative to body shapes presented on social media (Tadena, Jiotso et al., 2020). While studies found links between social media use and body shape perceptions (Fardouly et al. 2018), most studies only include women and focus on Facebook despite its decline in usage among emerging adults (Duggan et al., 2015). Thus, the present study examined the relationship between social media use across multiple platforms and current and ideal body shape in undergraduate women and men. Participants included 335 undergraduate Psychology students from St. John's University (n=272 women) who reported their actual and perceived minutes of social media use (Facebook, Instagram, TikTok). Participants also identified their current and ideal body shape using the Contour Drawing Rating Scale (Thompson & Gray, 1995). Body shape discrepancy was the difference between current and ideal body shape scores. Perceived social media use was greater than actual social media use ($t=2.37$, $p=.02$). Emerging adults also perceived their current body shape as being larger than their ideal body shape ($t=12.46$, $p<.001$). Greater perceived social media use was only marginally associated with a heavier current body shape ($b=.002$, $p=.06$), but perceived and actual social media use did not explain the discrepancy between current and ideal body shape ($p>.05$). Overall, undergraduates overestimated time spent on social media, endorsed a thinner ideal body shape, and endorsed perceiving their current body shape to be larger than their ideal body shape.

Keywords: social media, emerging adults, body type

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Poster Number: 90

Title: Bridging the Gap: Economic Development Opportunities Through Education for Adult Immigrants

Abstract: It is widely believed that in the next few decades, the United States will become a majority-minority country, meaning the way government approaches all policy issues will need to reflect the new, diverse makeup of the country. Arguably the most consequential policy area is economic development. As the population changes demographically, economic development policy must adapt to create equitable investments in human capital for all communities. For newer immigrants in particular, investment in human capital typically involves support for education, such as English Language Learning classes or tuition parity programs. While these programs have provided numerous benefits for younger, student-aged immigrants, there are few laws emphasizing educational or career outreach programs aimed at adult immigrants. This research will focus on one such law passed in the New Jersey State Legislature that removes the residency requirement for people to acquire professional licenses necessary for fields such as accounting, nursing, engineering, etc. By removing this barrier, the goal of NJ S2455 is to create equitable opportunities for all people to participate in the economy by using the education they have already received. This research will be conducted through a classic policy analysis framework that will clarify the larger social values the law addresses, how the issue emerged on the agenda for discussion in Trenton, and the interests supporting and opposing its adoption as law in the State of New Jersey, and how the implementation of the law has fared thus far.

Keywords: public administration, immigration, economic development

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Poster Number: 91**Title:** Title: Characterization of Rbfox3 isoform splicing

Abstract: Alternative splicing (AS) is a strictly regulated post-transcriptional process that occurs in the nucleus. Rbfox3/NeuN is a widely expressed neuronal splicing factor of the Rbfox family of RNA-binding proteins. Along with its paralogs Rbfox1 and Rbfox2, Rbfox3 regulates AS of genes involved in neuronal development, and it has been implicated in the regulation of adult neurogenesis and synaptogenesis. Rbfox3 also undergoes AS, producing four isoforms with either nuclear or cytoplasmic subcellular localizations. Tau is a neuronal microtubule-associated protein strongly associated with several neurodegenerative diseases including Alzheimer's disease. Tau exons 2, 3, and 10 are alternatively spliced to generate six isoforms. Inclusion of exon 10 generates an isoform containing 4-microtubule binding repeats (4R-tau), while exclusion generates an isoform containing 3-microtubule binding repeats (3R-tau). Imbalanced levels of 4R-tau and 3R-tau have been observed in many tauopathies. Rbfox3 has previously been reported to enhance the inclusion of Tau exon 10, suggesting that Rbfox3 may play a critical role in the pathogenesis of tauopathies. This project aims to investigate the following: (1) whether the four common isoforms of Rbfox3, as well as novel splice variants identified in our lab, have a differential effect on the AS of tau exon 10, (2) whether other splicing factors such as Mbnl2, Ptpb2, Nova1, and Nova2 also regulate the AS of tau exon 10, and (3) whether Rbfox3 autoregulates its own splicing, as Rbfox3 also regulates splicing of its paralog Rbfox2.

Keywords: Rbfox3, alternative splicing, gene regulation**Primary Author:**

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Poster Number: 92

Title: Two sets of mutually exclusive exons determine the cell-type-specific fine tuning of CAV1.3 in the mouse brain cortex.

Abstract: CaV1.3 channels are long-lasting voltage-gated calcium channels that are involved in auditory sensory signaling in the cochlea inner hair cells, cardiac pacemaking in the sinoatrial node, neuronal firing in the brain, and hormonal secretion in the pancreas and adrenal gland. Several gain- or loss-of-function mutations in the CaV1.3-encoding gene CACNA1D have been linked to primary aldosteronism, SAN dysfunction and deafness syndrome and neurodevelopmental syndromes. Moreover, CaV1.3 channels play a key role in calcium-mediated persistent inward currents linked to motor neuron hyperexcitability and spasms in the spinal cord following spinal cord injury, and the increased rise in basal cytosolic calcium and store-operated calcium entry that drives resistance to androgen deprivation therapy in prostate cancer. Inhibition of these channels using CaV1.3-specific channel blockers is thus a potential therapeutic target in these disorders. However, the development of specific and selective Cav1.3 channel blockers is hampered by the existence of splice variants that display different responses to the same drugs. The tissue expression signature and pharmacological properties of Cav1.3 splice variants in different regions of the central nervous system or in specific classes of neurons, are largely unknown. Our transcript scanning experiments and single-cell RNA-seq analysis revealed a distinct cell-specific expression of two mutually exclusive exons – termed 8/8a and 31a/31b – in both cortical excitatory and inhibitory neurons. We are investigating the physiological importance of these alternative splicing events through electrophysiology.

Keywords: voltage gated calcium channels, CaV1.3, alternative splicing

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Title: Alternative Splicing As a Modulator of Kv7.2 Ion Channel Activity

Abstract: Voltage-gated potassium channels (VGKCs) are involved in many physiological processes, including repolarization action potentials, controlling neurotransmitter release, heart rate, neuron excitability, transfer of electrolytes across the epithelium, and contraction of smooth muscle. VGKC subunit Kv7.2, which is encoded by the KCNQ2 gene, is expressed in the cerebral cortex, hippocampus, and cerebellum of the human brain, and different mutations of Kv7.2 along with Kv7.3 can cause autosomal dominant benign familial neonatal convulsions (BFNC) as well as other seizure disorders. Various BFNC-causing mutations in Kv7.2 have been identified; they include splice site mutations, and alternative splicing of Kv7.2 can change channel kinetics and localization. Furthermore, binding of the calcium regulator Calmodulin to the C-terminal of the KCNQ2 channel is thought to regulate channel trafficking. At least 10 different alternative splice sites in the C-terminal of Kv7.2 have been identified, but the physiological properties of many of these splice variants are yet to be addressed. To identify the factors controlling the expression of Kv7.2 alternatively spliced exons, we are developing mouse Kcnq2 minigene reporters and testing them against different splicing regulators. The physiological properties of these splice variants will be investigated by two-electrode voltage clamp in frog oocytes and patch clamp in mammalian cells. This set of experiments will allow us to test whether modulation of Kv7.2 splicing may be a viable therapeutic option for the treatment of BFNC.

Keywords: Ion channels, neurotransmitter, alternative splicing, gene regulation, neurobiology

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Title: Life-history of reptiles correlates with hemoglobin-oxygen affinity at a global scale

Abstract: Reptiles are distributed under diverse habitats and harbor adaptations unique to their environment. Life history traits (LHTs) are traits that an organism expresses in relevance to growth, reproduction, life span, and physiology, among others. These traits are vital to study in evolution and population/species adaptation as they directly correlate to the organism's fitness and subsequent generations via selective pressures. To exemplify the impact of LHTs and their influence on gene evolution, we studied a group of land vertebrates with global distribution (i.e., reptiles) via the molecular evolution of hemoglobins (Hbs). Hb peptides are ubiquitously expressed and fundamental for bodily oxygen and other gases transport. Since Hb correlates with LHTs and environmental factors, such as a positive correlation with altitude, we focused on LHTs to uncover further relationships using trait correlation analyses. We studied four adult Hb subunits (HBB1, HBB2, HBA1, HBAD) and four LHTs (body temperature, body weight, longevity, clutch size). Using the ratio $\omega = dN/dS$ (dN is the rate of non-synonymous mutations, and dS is the rate of synonymous mutations) to understand selection type in the molecular correlations, we found i) a positive correlation between body temperature and dS , ii) high body temperatures increase the mutation rate as high body temperature is related with high metabolic rate in ectotherms, and iii) inconsistent correlation between ω and dS indicating that dN may have a stronger significance on ω . Our results show how LHTs could directly influence molecular evolution in the critical genes of Hb that might support their remarkable adaptability.

Keywords: life history, molecular evolution, reptiles

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Poster Number: 95**Title:** Bisphenol A Increases BRF2 Expression in Y79 Human Retinoblastoma Cells

Abstract: Accurate RNA polymerase III transcription requires TFIIIB. Deregulation of TFIIIB activity occurs in various human cancers, including lung, breast, liver, prostate, and blood cancers. In general, oncogenes, tumor suppressors, and MAF1 regulate TFIIIB activity. TFIIIB activity is regulated by polyphenols, including the flavonoids epigallocatechin gallate (EGCG) and daidzein, in the context of cervical and breast cancer, respectively. This study aims to determine if the polyphenol bisphenol A (BPA), classified as a xenoestrogenic environmental pollutant, regulates TFIIIB activity in vitro. We performed differential gene expression analyses of publicly available RNA sequencing datasets. TFIIIB-related factor 2 (BRF2) expression is significantly increased in Y79 retinoblastoma cells treated with 40 mM BPA for 48 hours. MAF1 expression is significantly increased in two of three differential gene expression analyses performed. However, we did not observe consistent and significant changes in the expression of the TFIIIB subunits B-related factor 1 (BRF1) or B double prime 1 (BDP1). BPA has been classified as an endocrine disruptor and demonstrated to have both agonist and antagonist effects through nuclear steroid hormone receptors. Specifically, BPA has been demonstrated to bind to the androgen receptor (AR), estrogen receptor alpha (ESR1), and beta (ESR2) receptors. To determine if BPA regulates BRF2 and MAF1 expression through androgen or estrogen receptors, we analyzed TFIIIB and MAF1 promoters to identify putative androgen and estrogen binding sites. We identified putative AR, ESR1, and ESR2 binding sites in both BRF2 and MAF1 promoters. Interestingly, the BDP1 promoter has no putative ESR2 binding sites and the BRF1 promoter binding sites but does not contain AR binding sites. Our data suggest BPA may modulate BRF2 and MAF1 expression in BPA-treated Y79 cells through a combination of nuclear hormone receptor cross-talk.

Keywords: bioinformatics, environmental pollutants, gene expression

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Poster Number: 96

Title: Defendants in the Legal System.

Abstract: Over the years, domestic violence has been reshaped in the eye of the public, however, a subgroup of women has been neglected, victim-defendants. Victim defendants are people that fight back, possibly critically wounding their abuser, thus facing criminal charges. Most times these women suffer from an offshoot of post-traumatic stress disorder, battered women syndrome. Research suggests that there is a growing global awareness of battered women syndrome. Women who suffer from battered women syndrome and have a history of being abused have a more relevant defense. Lawyers are the last protective shield ensuring victims receive justice so it is important to see if stereotyping victims of domestic abuse impacts victim-defendant court rulings. This survey aims to determine how future legal professionals perceive victim defendants (i.e, those who commit crimes under duress or kill their abuser) and whether the negative attitudes and/or stereotypes predict legal outcome provisions.

Keywords: domestic violence, victim-defendants, and law

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Poster Number: 97

Title: Mechanism of naphthenic acid binding to humic acid

Abstract: The oil sands in Alberta, Canada are in northern boreal wetlands that are being destroyed by oil extraction because remediation methods have proven largely ineffective. One toxic byproduct of oil extraction is a family of cyclical surfactant organic acids known as naphthenic acids (NAs). They are toxic to aquatic life, including fish, frogs, and aquatic birds. It is suspected that NAs bind to the humic acid in dissolved organic matter in natural water, making them difficult to remove by conventional remediation methods. This problem prompts the following question: what is the binding mechanism between NAs and humic acid when dissolved in aqueous solution? Fluorescence quenching experiments are being used to determine the binding mechanism between model NAs and humic acid. Fluorescence quenching refers to reducing the fluorescence intensity of a given substance. The stern-Volmer method will be used to determine if the quenching mechanism is static (binding) or dynamic (collisional) for model NAs. For static quenching, binding constants can be calculated to determine the strength of binding. Our initial findings show that NA model compounds with ring structure quench humic acid fluorescence, indicating ring structure may impact binding. Understanding how NAs bind to humic acid in dissolved organic matter may provide insights into new effective remediation methods in the oil sands.

Keywords: Environmental, Fluorescence quenching, Naphthenic acid

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Title: Coarse Grain Model of Dynamin Protein in Solution

Abstract: In the final stages of endocytosis, the protein dynamin forms an oligomeric coat around the neck of the vesicle formed from the cell membrane. Then, dynamin catalyzes the hydrolysis of GTP into GDP. This leads to a large-scale conformational change in the protein that causes membrane fission. There are two proposed models for how dynamin causes membrane fission of the vesicle: the disassembly model and the constrictase model. In this study, dynamin will be studied using the well-established MARTINI coarse-grained model and molecular dynamics (MD) simulations to help determine the mechanism of membrane scission. The results from the MD analysis will help determine how the protein changes conformations and which collective variables give the best descriptions of those motions. Additionally, they will be used to bias enhanced sampling simulations that will find structures that are not sampled by standard unbiased MD. Once the enhanced sampling simulations are complete, it will allow us to determine the free energy landscape associated with any important dynamin conformational changes associated with membrane fission. This will allow us to use a thermodynamic argument to help determine whether the constrictase or the disassembly model best describes the mechanism of dynamin induced membrane fission.

Keywords: computational, chemistry, proteins

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Title: Preliminary results of EEG testing in native English and native Polish adolescents with typical language development

Abstract: The aim of our research is to understand how the acoustic (physical) aspects of spoken words are detected in the auditory cortex and transformed to be specific for native language speakers. Our current project expands our studies by examining acoustic and language-specific neural processing in adolescents between the ages of 15 and 20 years. Adolescents are typical and atypical language learners from monolingual English, bilingual Polish English, and bilingual Spanish English language backgrounds. Atypical language learners have developmental language disorder and dyslexia. For this project, electroencephalograms (EEGs) are recorded while participants listen to spoken nonword pairs. The nonwords within the pairs begin with onset sequences that occur in both the English and Polish languages (/st/, /sət/, /pət/) and one onset that occurs in only the Polish language (/pt/). The Polish language contains the onset /pt/, whereas this onset does not occur in English or Spanish. Each participant engages in two EEG testing sessions, a Passive and Attend listening condition. For this presentation, we show preliminary EEG data from a group of monolingual English and bilingual Polish English adolescents who are typical language learners. Results revealed auditory evoked potential (AEP) signature waveforms that were specific for each onset sequence /st/, /sət/, /pət/, and /pt/. These acoustic-level neural signals replicated our previous findings with adult English and Polish subjects. The experimental paradigm delivering the stimuli and recording the EEGs was modified for testing atypical language learners. Thus, these results also demonstrate quality EEG data recordings using modified experimental methods.

Keywords: Electrophysiology, Auditory Evoked Potentials, Native Language

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Poster Number: 100

Title: Acoustic-level and native-language specific sensory processing in the auditory cortex in adult native English and Polish speakers

Abstract: Every language has a limited set of speech sounds and speech sound sequences. These speech sound sequences within spoken words are transmitted through the air as sound waves. The acoustic (physical) signals of speech within these sound waves are transmitted from the ear to the auditory cortex in the temporal lobe of the brain by way of the auditory sensory pathway. In a series of studies, Wagner and colleagues have recorded electroencephalograms (EEGs) from native-English and native-Polish adults as they listened to spoken nonsense words that begin with onset sequences that occur in both the English and Polish languages (/st/, /sət/, /pət/) and one onset that occurs in only the Polish language (/pt/). Through various analyses, Wagner and colleagues have demonstrated that both the acoustic aspects of speech and aspects that are specific for native-language speakers were evident at the earliest stages of sensory processing in the auditory cortex. To understand how neural processing of the acoustic signals become language-specific (i.e., different depending on one's native-language experience), Wagner and colleagues analyzed the EEGs within the theta, alpha, beta, and low gamma frequency bands. These studies supported the view that feedback signaling in the alpha and beta frequency bands, which reflects language experience, interacts with feedforward sensory processing of the acoustic signals of speech in the theta and gamma bands. In this presentation, we present these research findings and future methods of analysis to further clarify this process.

Keywords: Electrophysiology, Auditory sensory processing, Native-language

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Title: Preliminary results of behavioral testing in native English and native Polish adolescents with typical language development

Abstract: The aim of our research is to understand how the acoustic (physical) aspects of spoken words are detected in the auditory cortex and transformed to be specific for native language speakers. Our current electroencephalogram (EEG) and behavioral data collection project expands our studies by examining acoustic and language-specific neural processing in adolescents between the ages of 15 and 20 years. Adolescents are typical and atypical language learners from monolingual English, bilingual Polish English, and bilingual Spanish English language backgrounds. Atypical language learners have developmental language disorder and dyslexia. For this project, EEGs are recorded while participants listen to spoken nonword pairs. The nonwords within the pairs begin with onset sequences that occur in both the English and Polish languages (/st/, /sət/, /pət/) and one onset that occurs in only the Polish language (/pt/). The Polish language contains the onset /pt/, whereas this onset does not occur in English or Spanish. Each participant engages in two EEG testing sessions, a Passive and Attend listening condition. During the attend condition, the participant performs a syllable identification task. For this project, we show the preliminary results of the syllable identification task and the behavioral assessments from English and Polish typical language learners. Behavioral assessments included measures of language, vocabulary, reading, phonological processing, and non-verbal IQ. The syllable identification task results replicated previous research findings with English and Polish adults. These preliminary results and behavioral assessment results were as expected, thus supporting excellent behavioral methods for data collection.

Keywords: speech perception, native language, behavioral assessments

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Poster Number: 102

Title: Genetically Encoded Fluorescent Iron Sensor: A Model for studying Cellular Iron Metabolism

Abstract: Cell death is a biological process that is essential in proper cellular homeostasis, development, and function. Malfunction of this system can lead to different diseases and cancers. Ferroptosis is a form of cell death that occurs as a result of the accumulation of lipid peroxides, that is dependent on intracellular levels of iron. Iron is essential to multiple metabolic processes in the cell, including the catalyzation of lipid peroxides. Thus, intracellular iron levels must be tightly regulated. Our goal is to create a cellular model to study and detect changes in intracellular iron levels. Through the use of a genetically encoded fluorescent iron sensor, we have generated a stable cell line that provides fluorescent readout on intracellular iron levels. This model can be used to screen for genes, small molecules, and drugs that affect and regulate intracellular iron levels. These findings can then be used to discover new regulators of ferroptosis, data that could be essential to the treatment of ferroptosis-linked diseases.

Keywords: Iron Metabolism, Fluorescent Microscopy, Ferroptosis

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Poster Number: 103

Title: Synthesis of 'Prostaglandin' Analogs

Abstract: Prostaglandin are oxygenated fatty acids that can be used as inflammatory treatments. The Yoganathan lab focuses on improving synthesis of benzimidazole-derived compounds to target DP1 or DP2 receptors.

Keywords: prostaglandin, benzimidazole, inflammatory

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Poster Number: 104

Title: Neurophysiological indices of music-language association and dissociation in the developing brain

Abstract: The association and dissociation between music and language processing has long been a matter of debate. Musicians and tonal language speakers are more sensitive to pitch differences than non-musicians and nontonal language speakers. Bilingual experience modulates auditory processing of sounds, but it is unclear whether and how bilingual experience affects music processing. This study examines music processing in bilingual teenagers from Mandarin (a tonal language) households and those from non-tonal language households. The central question is whether bilingual experience enhances auditory processing similarly regardless of the specific language, or whether the influence of language on music processing is language specific. Event-related potential (ERP) responses were recorded from 65 scalp sites. An oddball paradigm with six types of music changes (intensity, pitch, rhythm, timbre, slide and location) was presented. Preliminary results did not support the general bilingual advantage theory but did support the language-specific enhancement of auditory processing.

Keywords: Neuroscience, Music, Language

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Poster Number: 105

Title: 2) Neurophysiological indices of lexical tone processing in children with different language backgrounds

Abstract: The bilingual advantage theory stipulates that learning two or more languages leads to enhanced cognitive skills, especially in terms of executive control. However, it is controversial whether and to what extent the “bilingual advantage” can be transferred for sensitive processing. Understanding whether and how early bilingual experience modulates cortical sensitivity for speech processing has both theoretical and clinical implications. Event-related potentials were recorded using a 65-channel sensor net. The stimuli consisted of easy versus hard lexical contrasts. A multi-oddball paradigm was used. We measured cortical responses of lexical tone processing in bilingual English-Mandarin (tonal language), English-Spanish (nontonal language) and monolingual English young speakers. We found that English-Mandarin teenagers showed larger discriminative responses to the more difficult lexical tone changes than the other language groups. But the bilingual advantage effect is not robust in the non-tonal language groups.

Keywords: Neuroscience, Communication Sciences and Disorders, Speech Processing

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Poster Number: 106

Title: The roles of two extracellular loops in proton sensing and permeation in human Otop1 proton channel

Abstract: Otopetarin (Otop) proteins were recently found to function as proton channels, with Otop1 revealed to be the sour taste receptor in mammals. Otop proteins contain twelve transmembrane segments (S1-S12) which are divided into structurally similar N and C domains. The mechanisms by which Otop channels sense extracellular protons to initiate gating and conduct protons once the channels are activated remains largely elusive. Here we show that two extracellular loops are playing key roles in human Otop1 channel function. We find that residue H229 in the S5-S6 loop is critical for proton sensing of Otop1. Further, our data reveal that the S11-12 loop is structurally and functionally essential for the Otop1 channel and that residue D570 in this loop regulates proton permeation into the pore formed by the C domain. This study sheds light on the molecular mechanism behind the structure and function of this newly identified ion channel family.

Keywords: Ion channel, proton sensing, gating mechanism

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Poster Number: 107

Title: Correlation between local anesthetics injection with the psychological fears of dental procedures.

Abstract: In this research, I will be collecting statistical data on whether local anesthetics is the main fear rather than the psychological fear of the actual dental procedure and compare them. The Common local anesthetic drug used in dentistry include Lidocaine, Epinephrine, Articaine, and Bupivacaine. These anesthetics cause a numbing effect that might last thirty minutes up to three hours. Throughout my research, I will be presenting the final findings on this matter and analyze to see the most reoccurring fears among patients. Moreover, my research on this matter is due to self-interest, observation, and the ongoing fear of the dentist. Through this research, I intend on demonstrating people's fear of the dentist if it's the actual local anesthetic or the dental procedure and show the statistical data that supports the statement that Local anesthetics or dental procedures are the real fear preventing patients from attending their dentist visits.

Keywords: Local anesthetics, dental procedures, fear

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Poster Number: 108

Title: “Quanto più si cela, tanto più divampa il fuoco coperto”: The Attraction of the Forbidden Love of Pyramus and Thisbe

Abstract: The Italian story of Pyramus and Thisbe has a plotline that has been repeated many times throughout the course of history. This tale of two star-crossed lovers that wish to be united despite their parents' disapproval can also be seen in stories like Romeo and Juliet in 1595 all the way to 1961 with the film West Side Story and back to 1844 with The Count of Monte Cristo. Many stories disappear over the course of time, but Pyramus, Thisbe, and their forbidden love have not. This phenomenon begs the question- why does this story continue throughout the years, and why do artists and authors bring it forward? The fascination with the trope seems to be because we have a human desire to want what we cannot have- or the idea of the forbidden fruit. We idolize a couple like Tony and Maria from West Side Story- the couple that has no way of being together. Through searching through the minds of humans, it is clear that we desire a love that is more impossible rather than easy love. There are many reasons for this phenomenon, venturing far beyond the explanation of "human nature". We have always wanted what we cannot have, and the reasoning is far clearer than many think it may be.

Keywords: literature, italian, love

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Poster Number: 109

Title: Sexual Health Education in African American College Age Girls

Abstract: The aim of my study is to research how the lack of sexual health education in the black community affects college-age African American women, and how to spread education to lessen the negative effects

Keywords: sexual health education, womens studies, african american studies

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Poster Number: 110

Title: The Evolving Concept of Fair Play in Sports: Past, Present, and Future

Abstract: The concept of ‘fair play’ is considered as imperative teaching components of successful physical education and sport classes. Sport and physical activities are not only seen as but market themselves as main instruments for teaching new generations to act, live, and behave ‘fairly’ At the same time, the sport industry itself is dominated by hyper-commercial enterprises that make no effort to disguise their cardinal objective of delivering entertaining products to maximize profit margins. Some other times we can witness how political will and interest interfere with the pure, ideal concept of fair play – in the world of sport and even beyond. The current and ongoing war in the Ukraine put decision makers of international and national sporting federations into the spotlight: whether to allow or not Russian and Belorussian athletes to participate at their events? The aim of this presentation is to put this recently evolving situation into a historical context and analyze it from the perspective of fair play. This study concludes that international and national sport organizations as well as elite athletes have shown the tendency to focus on the political context of their sporting events rather than the basic concept of fair play that has been advocated in sport for centuries.

Keywords: fair play, sports, political context

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Poster Number: 111

Title: What beliefs do White and African-American freshmen who attend a private university in Queens NY have about the achievement gap and online learning since the onset of the Covid-19 pandemic?

Abstract: This study is to observe the effects of online learning and if students believe it has affected the achievement gap between African-American and White freshmen students.

Keywords: technology, covid-19, education

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Poster Number: 112

Title: Democracy Dies in the Wake of Terrorism

Abstract: Journalists have an almost sacred duty to "show us the light" if democracy is dying in the dark. Indeed, if democracy is to survive, journalists must be at the forefront of the effort to save it. In fact, it appears that people, particularly young people, are going into journalism to make a difference. It is our responsibility as communicators to be change agents. The goal is to reinforce pre-existing beliefs rather than to learn new ones. Journalism has evolved into a tool for arguing a point of view rather than informing. This is the real danger to the American republic. Free speech is a noble idea because it allows for the free exchange of ideas, both good and bad, in a public dialogue, allowing us as a people to hear, judge, and decide for ourselves what we believe. But no republic can truly exist while an increasingly hostile and vitriolic mob in the media and among us in society tries to intimidate opposing views into silence. More speech, not silence or canceled "culture," is the answer to troubling speech. The "cancel" culture is now itching to regress into a declining democracy.

Keywords: journalism, democracy, terrorism

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Poster Number: 113

Title: The role of women in seaweed agriculture in east Africa

Abstract: The goal of my research is to examine the crisis awareness and need for fair trade laws. Organizations such as Global Seafood Alliance and Kenya Marine and Research Institution have worked alongside Kenyan and Zanzibari women to increase wages and empowerment of women in these communities. I plan on working remotely in communication with research institutes and organizations to gain information on seaweed farming.

Keywords: Ethnographic Research, Human Rights, Seaweed Agriculture

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Poster Number: 114

Title: How Diplomacy Can Benefit from alternative uses of media

Abstract: International Affairs is often shrouded in a number of political agendas, and economic nuance. However with the assistance of media creators, quicker in roads can be made around the globe by making more of the global public aware of complex problems officials work to solve each day .

Keywords: Creative, Journalism, Documentary

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Poster Number: 115

Title: Is Humor A Free Pass To steal Ideas?

Abstract: In this presentation, I will be researching whether humorous use of another's trademark as one's own on a commercial product is subject to the Lanham Act. Is there First Amendment protection from trademark-infringement claims? Throughout my research, I will be presenting different court decisions on this matter and analyze to see whether or not such products are in violation of the Act. My main focus of this intellectual property research is to answer the above-posted questions with facts and precedent established by the courts. The Lanham Act's traditional likelihood-of-confusion analysis is based on the probability of confusion that might exist when consumers view the alleged infringing mark would probably assume that the product or service it represents is associated with the source of a different product or service identified with a similar mark. Moreover, my research on this matter is due to ongoing issues in the intellectual property section of the law practice. Many companies are infuriated by other, most of the time, lower companies taking their ideas, shapes, trademarks, etc. As other companies use them as their own and is thought to be damaging to their image by creating confusion within their consumers.

Keywords: IP Law, Trade-Mark Infringement, Lanham Act.

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Poster Number: 116

Title: Rap Lyrics as Evidence in Criminal Cases

Abstract: Some of our favorite songs, both old and new have lyrics that we hear but don't truly listen to while enjoying the song. Almost 50 years ago, we heard Bob Marley say, "I shot the sheriff...", later Freddie Mercury confessed to his momma that he "just killed a man". Today we hear artists like SZA singing about how killing her ex might not be the best idea. All of these are simply just lyrics, its our First Amendment right to sing these songs, or so we think. In recent times, these lyrics have been used to incriminate these artists who sing these lyrics, particularly in the rap genre. In 2022, many states including New York and California have passed a law, limiting the use of rap lyrics as evidence in court. This bill comes in light of the ongoing trial of rappers Young Thug and Gunna, as lyrics from various songs were put in as evidence to further incriminate the two. This bill known as the RAP Act is backed by many rappers including Jay-Z and more. The research will highlight cases that further prosecute these artists and cases where lyrics are ineffective in prosecutions.

Keywords: legal research, rap music, criminal cases

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Poster Number: 117

Title: The Modern Day Segregation of the American Public Education System

Abstract: A pressing issue that by a majority is often overlooked is the lack of diversity in the curriculum, resources, access, and opportunity in the United States public education system. For all, going to school looks different depending on where you live. That is a fact. If you took a stroll in a considered low-income neighborhood school, what do you think you would see? And what do you think you would see in a school within a neighborhood that is higher in income? My research answers the perspicuous differences between the two and the driving factors behind the modern-day segregation of the American Public school system. Since 1954, when the Supreme Court made the landmark decision in *Brown vs. The Board of Education* where the court held that segregation based on race was a violation of the equal protection clause under the fourteenth amendment. And since then we have been taught to believe we have been desegregated. But once you take a closer look you will see the systems put into place that creates the dysfunction within the American Public Education System.

Keywords: Education, Curriculum Development, Access to Resources in Education, Education Funding

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Poster Number: 118

Title: Freedom of speech between public and private universities

Abstract: In this research paper, I will research the difference in freedom of speech between public and private universities. Public universities are government entities and private universities are not. Furthermore, since private universities are not government entities, they are not required to uphold the first amendment protections in the same way as a public university. Private universities are able to impose limitations on freedom of speech. The first amendment protects the people's right to freedom of speech regardless of factors like religion, gender, race, and sexual orientation. Although Freedom of speech is seen as essential in the United States, it is not absolute. The government can impose regulations on certain kinds of speech like harassment, threats, slander, and violence. Furthermore, there are several federal statutes that regulate certain kinds of speech like Title VI and Title IX. Further, discipline by a private institution is not state action in which the constitution is not violated when a private college disciplines a student for his or her speech even if the student's conduct would be constitutionally protected at a public college.

Keywords: Legal writing, Legal Studies, Free speech

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Title: Downstate Casinos

Abstract: My research focuses on the legality of a new casino-resort opening at the site of the Nassau Veterans Memorial Coliseum in Long Island, New York. Gambling had traditionally been viewed as immoral and dishonorable in this country. The viewpoints of many Americans towards gambling have become more tolerant, a radical change that can be seen over the past three decades. One can observe this paradigm shift on a lower scale in the state of New York.

My research investigates the legislation that can be attributed to the modern sentiments toward gambling, on a federal, state, and local level. Legislation has laid the foundation for legal gambling across the country and New York state. My research similarly explores state-enacted measures to ensure the gaming industry does not have a negative lasting impact on their communities. Companies seeking to expand into New York must comply with the state's gaming regulations as well as gain the approval of the local community they seek to engage. Locals of the newly proposed site in Long Island have opposed similar measures in the past in an effort to protect their community. Companies cannot gain state approval without first completing the challenge of satisfying the local community.

Keywords: Law, gaming, community

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Poster Number: 120

Title: Child Welfare Schemes Exploit Disabled Foster Children for Financial Gain.

Abstract: My research will explore how New York State overlooks New York City's child welfare systems' policies and practices and their impact on children. Child welfare systems promote the well-being of children by ensuring their safety, achieving stability, and strengthening families. However, the City's repeated lapses in detecting abuse and fraud have created an environment where people can abuse the child welfare system for financial gain. From 1986 to 1994, under different aliases, Judith Leekin fostered and adopted dozens of disabled children to collect subsidy payments. In her home, under her care, the children were continuously physically and mentally abused, locked in a basement or garage, denied an education and medical treatment, and starved. New York State failed to perform background checks, lacked a centralized system to track foster homes, and did not visit the children. As a result, the state routinely sent checks to Leekin's different aliases under the same address. In 2009, she accumulated \$1.68 million in subsidy checks. When the children were removed from her care, they were adults who lacked the ability and knowledge to care for themselves. In 2015, a complaint revealed 19 children from ages 3 to 16 were continuously abused and neglected in foster care. The children did not have access to proper representation, were unable to leave the foster care system, and remained in a disadvantageous position. This paper will analyze and explore the implications of New York State's insufficient oversight of New York City's child welfare systems and how it affects children.

Keywords: Legal Writing, Policies, Child Welfare Services

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Poster Number: 121

Title: Is Your Private Social Media Actually Private?

Abstract: I will be researching the topic of how much privacy people actually have when using social media. There is an expectation of privacy that many people believe they have when using social media platforms such as Facebook, Instagram, Twitter, and many others. Because of the Fourth Amendment, people are protected from unnecessary searches and seizures, and there is a misconception that this also applies to our social media accounts. There are levels to what is protected and private about what is posted on social media. My research will include looking into cases in the state of New York that dive into the reasonable expectation of privacy when it comes to what is posted on social media, and whether what is posted can be used against people. How private is a private social media account? And can information be taken from a private social media account, and used against a person in a court of law?

Keywords: case search, social media, privacy

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Poster Number: 122

Title: Human Trafficking, Hotels, and Law

Abstract: My research is focused on the topic of sex trafficking. I will examine the issue of whether victims of sex trafficking can seek damages from hotels, franchisers, inns, etc., that “participated in the venture” of sex trafficking according to the Trafficking Victims Protection Reauthorization Act (TVPRA). TVPRA states criminal penalties for “whoever knowingly benefits, financially or by receiving anything of value from participation in a venture which that person knew or should have known has engaged in an act in violation of [the Trafficking Victims Protection Act].” 18 U.S.C. § 1595(a). I will dissect this statute into several elements. I will mainly focus on the element of “knowing,” meaning what evidence is sufficient to establish the element whether an enterprise “knew or should have known” it has participated in a venture of sex trafficking. I will also research on what is meant by “participation in a venture” and whether franchising company of the hotels that do not own the hotels that “participated in a venture” can be held liable under the TVPRA.

Keywords: legal studies, federal law, sex trafficking

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Title: Makeup in the Law

Abstract: In a recent class action lawsuit against Morphe LLC, the Los Angeles-based cosmetics company has been accused of using “inherently dangerous” color additives in its eyeshadow palettes, eyeliners, and Colorfix 24-Hour Cream Color products, which is not approved by the U.S. Food and Drug Administration (FDA) for cosmetic use in the area of the eye. Additionally, they failed to adequately warn consumers of the potential risks associated with these harmful ingredients. Did Morphe label its eye products in a way that a reasonable person would know the risks associated with the eye product? Were they transparent in their advertising? What were the consequences that customers faced upon application of the eye products? According to the FDA, “color additives must be approved for their intended use. Companies and individuals who market cosmetics have a legal responsibility to ensure the safety of their products.” When analyzing this case, the following issues will be considered: false advertising, unfair competition, negligence, and product liability. I will utilize several sources to conduct my research, from the complaint to the Code of Federal Regulations (CFR), The Fashion Law website, and publications on the Class Action site, to name a few. My findings indicate that as of January 16, 2023, the color additives class action against Morphe LLC has been put on hold following the parent company, Forma Brands, filing for Chapter 11 bankruptcy on January 12, 2022. This announcement affects whether plaintiffs in the case will be served justice or not.

Keywords: cosmetics, color additives, legal case

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Title: Educational Negligence and Breach of Contract

Abstract: My research will focus on educational negligence and breach of contract. This relates to students suing their educational institutions for negligence or failure to act on specific promises made. Cases under this topic include *Ross v. Creighton University*, where a student sued his university for recruiting him to play basketball despite knowing he was not academically ready to complete college-level work. They also failed to provide the sufficient tutoring promised to him in exchange for joining the team. Student-athletes are expected to train, practice, and perform at a high level at their games to stay on the team, maintain their sports scholarships, help the school succeed in the sports division, and improve its reputation. Additionally, students are also required to have passing grades and meet their college's academic standards. Although, their time and resources may be limited as they spend most of their time dedicated to their sport. These students are expected to endure what seems nearly impossible as there are not enough hours in the day to complete all these demanding tasks. Educational negligence and breaches of contracts give students the right to pursue the compensation they deserve when educational institutions fail to meet the standards or promises they established.

Keywords: education, negligence, contract breach

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Poster Number: 125

Title: FDA's Food Labeling and Consumer Production Act of 2004

Abstract: My research project will be on the FDA's Food Labeling and Consumer Production Act of 2004 (FALCPA). The FDA stresses the importance of companies correctly following safe food practices and labelling their food products for those who have allergies. According to FDA, 90 percent of all food allergies come from eight major food groups: milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, and soybean. To protect the people, the FDA created this specific act which all companies must uphold. I am researching cases, in which companies are charged with mislabeling or misleading products, whether they win or lose. All these cases would be violating the regulations if they do so. For instance, one major case in which a company disregarded this act is the Peanut Corporation of America (PCA). The former CEO Stewart Parnell was sentenced to prison for 28 years. Why you may be thinking? 700 cases of salmonella poisoning were linked to contaminated peanut products where nine people died and the company did not try to fix it. This is one of the harshest imposed punishments in connection with an outbreak to foodborne illness. This company did not follow the FDA's FALCPA, and throughout my research I will show you other companies who were charged if from violating this.

Keywords: Legal research, FDA, food labeling cases

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Poster Number: 126

Title: International Pesticide Residue Regulation

Abstract: The Food and Drug Administration is responsible for monitoring and inspecting produce that is imported and exported from the United States. Specifically, they regulate produce imports that come from countries that do not meet US pesticide regulations. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is the statute that governs the registration, distribution, sale, and use of pesticides in the United States. Although the US has banned the use of certain pesticides, the production and export of those chemicals are authorized within the country with an appropriate license. Ironically, the sale of US banned pesticides to foreign countries can return back to the US in the form of residues found on imported produce. The discrepancies found within FIFRA demonstrate its failure to regulate pesticide residues that come from imported produce. My research will establish the shortcomings of the FDA in monitoring produce that is grown with pesticides internationally that are prohibited in the US.

Keywords: Legal Writing, Pesticides in Produce, FDA

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Poster Number: 127

Title: The Barriers To Closing the Racial Achievement Gap in MCPS

Abstract: The purpose of the research is to get a better understanding of the barriers preventing the racial achievement gap (the gap between black/brown students and their white/Asian peers) in Montgomery County public high schools from closing. It will present a clearer picture of the issue using standardized testing scores, graduation rates, AP exam completion, and similar academic metrics. It will also analyze the role of school segregation within schools and throughout the county at large. Lastly, surveys and interviews with related organizations will give a more qualitative look into the causes and effects of the achievement gap.

Keywords: Achievement, Race, Education

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Poster Number: 128

Title: SJU First Generation Students: Academic Success and Retention

Abstract: The research question is, "How does St. John's University support first-generation students in academic engagement and retention?" This addresses the issue of access to higher education since first-generation college students may feel alienated, incompetent, or inadequate compared to their peers in the absence of support and resources. According to initial research, the resources available to St. John's University students are limited to one program, Student Support Services, in which students must meet specific requirements and apply to receive support. Resources are also restricted to a web page titled First Generation Student Resources, which includes links to general scholarships and two external programs, Center for First-Generation Student Success, and I'm First! Initiative (First Generation Student Resources, 2021). Further analysis of this question could uncover how St. John's supports and actively and purposefully serves its first-generation community through admissions, academic advisement, financial aid, and career services.

Keywords: First Generation, Students, Higher Education (Additional Key Words: St. Johns University, Undergraduate)

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Poster Number: 129

Title: Psychological Affects of Families and Communities Due to Mass Incarceration of Black Males

Abstract: This research study will be conducted by getting first hands thoughts, feelings, and emotions by tapping into the minds and going beyond the surface to look at the effects on family members and communities when they have loved ones taken out of the house due to imprisonment and no longer a whole unit or community, but slowly a statistic in the systematic oppression of taking black males out of homes leaving African American mothers to provide by themselves for their family.

Keywords: Psychological, Family Living, Mass Incarceration

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ST. JOHN'S UNIVERSITY

THE PETER J. TOBIN COLLEGE OF BUSINESS

Poster Number: 130

Title: How do public and private schools impact children and their families?

Abstract: The purpose of this research is to understand the differences between public and private schools. The aspects that will be examined are race, religion, socioeconomic status, location, and others. It is assumed that private schools provide better education than public schools especially in inner cities. New York City has a problem with their school system, so I am looking into why this occurs. I am also looking into how race plays a factor in this. There are several studies that show how race, religion, and socioeconomic background can influence where one goes to school. This then impacts where a student will go to college and will make getting a good job even more difficult. There is a clear problem with the school system, and I think there needs to be a better understanding of why this is happening and how it can be prevented.

Keywords: Education, Socioeconomic, Schooling system

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The purpose of this research is to understand the differences between public and private schools. The aspects that will be examined are race, religion, socioeconomic status, location, and others. It is assumed that private schools provide better education
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Poster Number: 131

Title: What are the current barriers for low-income college students to create and maintain adequate credit scores?

Abstract: This research aims to determine the current barriers for low-income college students to obtain and maintain adequate credit scores. In the United States, your credit score significantly impacts every aspect of your financial life. This three-digit number will determine whether or not you might be approved for a mortgage, car loan, or personal loan and for what rate you will be charged for borrowing money from financial institutions. Building credit needs to start young, so students have time to establish a healthy pattern of borrowing money and paying it back promptly. Lack of financial knowledge in relation to credit and debt results in unwise financial decisions and investment errors, which can have unfavorable economic effects. To build a society that is both economically stable and socially robust, financial literacy is therefore essential.

Keywords: Credit, College Students, Low-income

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Poster Number: 132

Title: Word of Mouth: impact on consumers

Abstract: Abstract: Word of mouth (WOM)—consumer-generated communications regarding brands, products, or services—can be thought of as either (a) a potential consumer response to product interactions or (b) as an input into the decision-making processes of other consumers. While the effects of WOM as an influential driver of consumer behavior are established, prior research has mainly focused on antecedents for the transmitters who produce WOM, leaving factors that influence the use of WOM by receivers vastly understudied. We address this gap in the literature by exploring contextual factors that may impact the efficiency of WOM. Through an experiment, we will explore potential interactions between factors that are endogenous (e.g., whether a review was purportedly created by a verified buyer) and exogenous (e.g., social presence; the salience of artificial intelligence (AI)) to reviews. Given the recent advances in AI and the ever-growing importance of online retail, this research is timely and has notable practical and theoretical implications.

Keywords: Consumer studies, marketing, surveying

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Poster Number: 133

Title: Opportunities and barriers for English as a Second Language (ESL) education within the Shuar communities of Limon Indanza, Morona Santiago, Ecuador

Abstract: My research aims to assess the opportunities and barriers for English as a Second Language (ESL) education within the Shuar communities of Limon Indanza, Morona Santiago, Ecuador. Within this assessment of ESL education across the communities through interviews and surveys, I hope to also understand the potential impact of virtual learning resources to enhance existing opportunities and remove barriers to effective language learning. My research intends to provide recommendations on sustainable improvements to language education resources and strategies within the Shuar communities of Limon Indanza, supporting general education efforts and future economic opportunities for research participants.

Keywords: Indigenous development, ESL education, learning resources

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Poster Number: 134

Title: Over Consumption is Consuming Our Environment: The Effects Our Role in the Fashion Industry has on Climate Change

Abstract: The subject of environmental inequality within the fashion industry's method of fast fashion is important because it impacts the quality of our future, first affecting those in low-income situations. According to a Bloomberg article the fashion industry "accounts for up to 10% of global carbon dioxide output—more than international flights and shipping combined." Thus it is only perpetuating the climate crisis and the safety of our environment, which ultimately puts every living thing's life at stake. Furthermore, the article clarifies how only "13% of clothing is recycled in the U.S.," with the vast majority of remaining clothing being thrown into landfills and burned. This is largely due to the lack of education about the industry and with the inaccessibility to ethical methods of consumption and waste. Asking the question if "when made aware of the effects of fast fashion on climate change how willing are St. John's students to change their consumption and disposal habits, and what are the barriers to change?" will be answered by this research. This study will be conducted with a mix of surveys, interviews, and analysis of both campus and national data in order to bring awareness to the impact that trends in clothing consumption and disposal on the st johns campus has on our environment. My study also aims to find the best next steps to stop this from continuing to happen.

Keywords: climate change, consumption, fast fashion trends

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Poster Number: 135

Title: The Rise Of Robotics & AI After the 1939 World Fair

Abstract: The use of robots in various industries has seen a significant rise in recent years. The development of robots has led to the elimination of dangerous jobs for humans and has also allowed robots to take on tasks that are hazardous to humans, such as handling heavy loads and toxic substances. The increased use of robots has also created a demand for high-skilled jobs in industries such as engineering, programming, and design. The spark that ignited this interest in robotics can be traced back to the late 1930s when the world was introduced to Elektro, a 210-centimeter tall, 120-kilogram machine that could walk, talk, blow up balloons, count on its fingers, and even smoke cigarettes. Elektro was the first celebrity robot and was featured at the World Fair, in movies, and on TV shows, capturing the attention of the world and inspiring people to research and develop the field of robotics further. In conclusion, the rise of robotics and AI can be traced back to the world-famous Elektro, and the impact of this robot on today's robotics cannot be overstated.

Keywords: Robotics, AI, Elektro

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ST. JOHN'S UNIVERSITY

THE SCHOOL OF EDUCATION

Poster Number: 136

Title: What sensory behaviors observed in young children?

Abstract: The purpose of the study is to observe children in a preschool special education to collect data on sensory behaviors observed from those children. The data collected will be used to identify the characteristics associated with sensory behavior in young children. This list of characteristics will help guide the development of a 'sensory profile' to identify the types of sensory behaviors children display. My piloted study will be guided by a research question, what sensory behaviors are observed from children in a preschool self-contained 12:1:2 classroom? A 12:1:2 self-contained in this case is referring to a special education classroom with 12 children, 1 teacher and 2 teacher assistance. I will be conducting a qualitative Ethnography pilot study. I am a special education teacher with over five years of experience working with children of varying needs and disabilities arranging from ages 2 ½ to 5 years old. This study seeks to develop a better understanding of what sensory behavior in young children looks like and how to identify the behavior displayed correctly. Within my years of teaching I have come across behaviors in children that in the beginning is challenging to know how to classify the behavior. Sometimes a behavior can be labeled one thing when it is actually something else. Children with sensory behavior in the classroom can become problematic and interfere with the child's daily functions. Being able to identify a behavior for what it is and not what it is not is very important to be able to support children with the appropriate intervention strategies. How can the issue of sensory behavior be identified accurately so that, when the child starts school or a program there is documentation or a system in place to check for and identify sensory behavior and address it appropriately and right away. What I hope to do is to observe the children in my classroom to describe what sensory behavior looks like in children who display certain types of behavior. The information can be shared with other teachers, therapists, parents and school administrators to be better able to identify and treat it whenever the child displays certain behavior. I always wonder how I can change the way children are observed and assessed to determine that there is sensory concern. Once a sensory behavior is identified, how can the behavior be addressed appropriately both in the classroom and outside the classroom? This brought me to the decision to observe the different types of sensory behaviors displayed from children in the classroom in hope to develop a list of sensory characteristics that would guide creating a 'sensory profile' specific to each child.

Keywords: Early childhood study, Qualitative research, Observation.

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Poster Number: 137

Title: The collaborative course design experience between instructional designers and faculty

Abstract: This qualitative research study investigated the collaborative relationship between instructional designers and faculty during a course design or redesign project. Two instructional designers and two faculty who have participated in this type of project were interviewed. The data was then analyzed and coded to identify recurring themes. The goal of this research was to examine the perspectives and lived experiences of faculty and instructional designers to better understand these types of collaboration, to inform the community and improve future collaborations.

Keywords: Course design, instructional design, faculty

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Poster Number: 138

Title: What culturally responsive teaching looks like in my classroom and how it best supports BIPOC students to develop a passion for learning a language other than English?

Abstract: The research is an autoethnographic study to find out what culturally responsive teaching looks like in my classroom and how it best supports BIPOC students to develop a passion for learning a language other than English. I will be analyzing myself as the main subject of study with goal of finding patterns, themes and evidence to answer my research question. For the procedure, I will be using self-written reflective journals. The journals will be written retroactively. The journals will be based on past memories of my previous teachings. In addition, I will be writing journal entries every week that will include my reflection on the work week.

Keywords: culture responsive teaching, adolescent studies, autoethnography

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Poster Number: 139

Title: Student Led Inquiry in a High School Social Studies Classroom: Teachers' Reflections

Abstract: The purpose of this study is to consider teachers' exploration of their changing approaches to teaching in their classroom to include more student-led inquiry activities where students are responsible for investigating; gathering information and using this information to create, discuss and debate as opposed to receiving the information from the teacher and completing a simple assessment at the end. The study will look at two teachers that have used more of the traditional lecture method in their classroom and are now shifting some of their instruction to be more student led. This study will serve as a model for other teachers to reexamine their own teaching approaches to be more student centered.

Keywords: Social Studies Education, Curriculum, Pedagogy

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Poster Number: 140

Title: Supporting Teacher Practice in Mathematics Explorations & The Effect on Unstructured Play in Grades 1 & 2

Abstract: During the COVID-19 pandemic students had limited social interaction which affected students' language development, social behavior and how students interacted with their peers. Thus, it is important to examine early elementary school children's social behaviors in the classroom not only in formal interaction, but also in informal play. More specifically, this research will be focused on open-ended tasks when engaged in exploratory math and unstructured play experiences outside of the classroom, in the first and second grade. This pilot study investigates how students' behavior changes, if at all, when they engage in exploratory math and unstructured play. This auto-ethnographic research will include current and retroactive reflective journal entries that focus on the planning of open tasks and how it can support the continued growth and development of social behavior during math. Thematic analysis will be used to determine a possible relationship. The analysis will demonstrate if and how children transfer their social behaviors from collaborative math experiences to unstructured play with peers.

Keywords: autoethnography, qualitative research, experience

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Poster Number: 141**Title:** The Inspiration of Culturally Responsive Texts with Adolescents

Abstract: My pilot research focuses on finding out how my use of culturally responsive texts inspire, if at all, high school students' interest in English. In this autoethnography, I chose to research this topic because I believe it is important to find out how adding culturally responsive texts to high school curriculum accounts for representation, inspiration, and validation of students. I ask this question because I notice that culturally responsive texts are not often researched in high school settings with the opinion of the students. The findings would inform other educators about teaching in a culturally responsive English classroom and may assist in making other educators aware of students' true feelings about culturally responsive texts. This study will contribute to my own professional growth, increase my and my students' cultural awareness, and the acknowledgement of my students' thoughts and feelings by their teacher. Higher cultural awareness will help improve our classroom culture and curriculum. The findings might also inform other educators about teaching in a culturally responsive English classroom and may assist in making other educators aware of students' true feelings about culturally responsive texts.

Keywords: culturally responsive, teaching, adolescent studies**Primary Author:**

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Poster Number: 142

Title: Retired Educators Perspective on Gifted and Talented Programs

Abstract: This narrative study will examine retired educator's perspectives on Gifted and Talented Programs, which often have strong connections to schoolwide Enrichment Models. Gifted and Talented Programs have been widely debated in regards to inclusion and access to resources.

Keywords: Gifted, Talented, adolescent studies.

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Poster Number: 143

Title: Narrative Experiences of College Veterans Regarding Career Transition and Life Satisfaction

Abstract: College-student Veterans were surveyed regarding their career transition and life satisfaction. Using modified Consensual Qualitative Research (CQR-M), open-ended, narrative responses from the mixed methods study were analyzed. This study mirrored an earlier study on mid-life career transition Veterans (Robertson & Brott, 2013), yet focused on the narrative experience of college-student Veterans. Two domains, “Insight from Career Transition” and “Relationship between Career Transition and Life Satisfaction” yielded seven core-ideas, including: Planning; Differences between Military and Civilian Life; Value of Military Benefits; Career Satisfaction = Happiness/Life Satisfaction; Planning for Career and Educational Goals; Impact of Transition; and Finances. These findings provide insight and strategic approaches for the career practitioner working with college-student Veterans undergoing the career transition process. These strategies are included, as well as limits of the study, and need for additional research.

Keywords: career transition, military, Veteran, life satisfaction

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Poster Number: 144**Title:** Perceived Need for Mental Health Counseling Licensure Among Addictions Counselors

Abstract: Credentialed Alcohol and Substance Abuse Counselors (CASAC) from across New York were surveyed on their perception of the need for mental health licensure within their role as addiction counselors. CASACs (n = 527) responded to the study and a smaller set of respondents (n = 145) provided open-ended data that was analyzed via modified Consensual Qualitative Research (m-CQR). One domain, “Need for Unlicensed CASACs to Pursue Masters Level Licensure” yielded six core-ideas, including: Legacy License for Experience; Benefits for Co-occurring Populations; Obstacles to Licensure: Shortage of Substance Abuse Professionals; Lack of Incentive (Financial & Support); and Changing/Defining the Role of the CASAC. These findings provide insight for the addictions and mental health professions, as well as licensing and training organizations, on the need for addictions counselors to obtain mental health licensing. The findings also provide insights for those supervising addictions counselors in the field. Limits of the study are addressed, as well as the need for additional research.

Keywords: addiction, mental health, counseling, licensure**Primary Author:**

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Poster Number: 145

Title: Introspections of 4 Male Student Athletes

Abstract: Throughout the world, adolescents remain in darkness because of their own lives that they live. A plethora of adolescents take their own life and fall into a forever darkness that leaves the unknown mystery of their reason why. Young men live in a world where their emotions are not idolized, but rather stigmatized. Change is needed. This ethnographic pilot study explores the perceptions and experiences of adolescent male student athletes. The topic of mental health within athletics is often overlooked because of the stigma of athletic success on and off the field. The focus of this research is to capture and describe adolescent male athletes' perspectives and experiences around (1) development and identity, (2) perceived stigmas and expectations, (3) personal reflection (4) motivation and (5) environment. Sources of data collected include semi-structured interviews, focus groups, reflective memos, surveys and observations. This study will fill the gap of adolescence research that focuses on young male athletes and their introspections during a critical period of adolescence in their athletic lives. To save lives is the mission.

Keywords: Student athletes; Stigmas; Mental Health

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ST. JOHN'S
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STUDENT RESEARCH CONFERENCE



PANEL PRESENTATIONS



Session I - 10:00 AM – 11:35 AM

1. Business Analysis, Statistical Modeling, and Economics DAC 416A

Statistical Model to Predict Stock Price of Walt Disney

Lauryn Simon (G)

Sustainability

Master of Business Administration, The Peter J. Tobin College of Business

A Statistical Model to Predict Equity Price in the Media Industry

Birat Shrestha (G)

Management

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Statistical Model to Predict Equity Price in Banking Sector

Anthony Evangelou (G)

Finance

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An Exploration of Fairness in the Risk Pricing Practices of Insurance Firms

Dzhumiea Nasriddinov (U)

Risk Management and Insurance

Bachelor of Science, The Peter J. Tobin College of Business

Addressing Pandemic Disruptions to Employee Benefits

Emma Ellis (U)

Business Analytics

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2. SJU CSI and Justice DAC 416B

Wrong Term

Loriana Mejia (U)

Criminal Justice

Bachelor of Science, The Lesley H. and William L. Collins College of Professional Studies

Double Homicide at St. John's

Mirian Ertil (U)

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Assault on a Drug Dealer

Caroline Haffner (U)

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Death of a Dealer

Caroline Haffner (U)

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Analysis of the Trial of Candance Montgomery

Kaija Rasmussen (U)

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Prolific Zodiac Killer

Maya Martin (U)

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BTK Killer

Jordan Cruz (U)

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3. Developing Novel Cancer Therapies and Treatments DAC 416C

Novel gene therapy for drug-resistant melanoma: Combination of PTEN plasmid and BRD4 PROTAC lipid nanoparticles

Aishwarya Saraswat (G)

Pharmaceutical Sciences

Doctor of Philosophy, College of Pharmacy and Health Sciences

Developing an Inhaled Nano-Emulsion for Repurposing a Herbal Drug for Non-small Cell Lung Cancer

Mural Quadros (G)

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Inhibition of Menin Inhibits Neuroblastoma Cancer Stem Cells

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Epigenetic regulator PRMT5 regulates pediatric neuroblastoma growth

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Session II – 11:45 AM -1:20 PM

1. Governance and International Politics DAC 416A

U.S. – Russian Trade, International Economic Disputes, and Solutions

Brian Lakhtarnik (U)

Government & Politics

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Understanding the role of poverty, education, and the role of NGOs in a low-income community of Belo Horizonte

Alissa D'Vale (U)

Government & Politics

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

China: An analysis of the nation's overall strength, threat potential to the United States and Taiwan, and possible solutions

Thomas Giral (U)

Government & Politics

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Future Indicators of Macroevironmental Stability in Developing Nations

Evan Naumann (U)

International Management

Bachelor of Science, The Peter J. Tobin College of Business

Immigration in the U.S. Labor Market

Palak Seth (U)

Business Analytics

Bachelor of Science, The Peter J. Tobin College of Business

2. Social Justice, Equality, and Inclusion DAC 416B

How do African American Women in the Northeast Region of the United States See Themselves portrayed on Television and Film?

Laelah Morris (U)

Television and Film

Bachelor of Science, The Lesley H. and William L. Collins College of Professional Studies

The Roles of Family Child Care Providers about Early Intervention

Robin Simpson (G)

Curriculum and Instruction

Doctor of Philosophy, The School of Education

“Diving into the Wreck” – Social Justice in LIS: Exploring the Intercultural Skills of Information Professionals

Elizabeth Macaluso (G)

Library and Information Science

Master of Science, St. John's College of Liberal Arts and Sciences

French “Heritage,” Algerian People, Nobody’s Law

Reem Nemmassi (U)

Art History

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Consequences of Occupational Demands & Lack of Resources for HCP’s Working During COVID-19

Alexandra Spinelli (G)

Psychology

Doctor of Philosophy, St. John's College of Liberal Arts and Sciences

3. Pharmaceutical Development and Characterization DAC 416C

High-throughput computational pharmacokinetics-driven identification of novel non-steroidal TGR5 receptor agonists: Possible future treatments for obesity

Joshua Fleishman (G)

Pharmacy

Doctor of Pharmacy, College of Pharmacy and Health Sciences

Emerging novel therapeutic approach for neuroblastoma by directly targeting cell cycle regulators

Parul Suri (G)

Pharmaceutical Sciences

Doctor of Philosophy, College of Pharmacy and Health Sciences

Design, synthesis, and biological evaluation of molecules targeting SIX1-EYA2 transcriptional complex

Kinjal Patel (G)

Pharmaceutical Sciences

Doctor of Philosophy, College of Pharmacy and Health Sciences

Enhanced Solubility and Anticancer Efficacy of Lorlatinib-Cyclodextrin Inclusion Complex

Akanksha Ugale (G)

Pharmaceutical Sciences

Doctor of Philosophy, College of Pharmacy and Health Sciences

Concerns and Controversies Regarding Unapproved Off-Label Use of Ketamine in Treatment-Resistant Depression: A U.S. Perspective

Amna Aslam (G)

Pharmacy Administration

Master of Science, College of Pharmacy and Health Sciences

Session III – 1:30 PM -3:00 PM

1. Diversity and Public Outreach DAC 416A

Romanian Social Workers' Self-Care Practices and Professional Quality of Life

Csenge Bodi (U)

Psychology

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Experiences of NYPL Librarians Who Organize Public Programs

Alexa Mangione (U)

Anthropology

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Simply Pretty

Kayla Stewart (U)

Biology

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

The Plight of Height: How Heightism Affects the Dating Market

Mengyuan (Johnny) Zheng (U)

Sociology

Bachelor of Arts, St. John's College of Liberal Arts and Sciences

Jayne Cortez: For The Poets

Stephanie Paz (G)

Museum Administration

Master of Arts, St. John's College of Liberal Arts and Sciences

2. Cross-culture Perspectives and Pushing Back on Discriminatory Practices DAC 416B

Assessing the Perception of two Generations in the Maintenance of Honor Killing: A Cross-Cultural Perspective

Litika Sharma (G)

Psychology

Master of Arts, St. John's College of Liberal Arts and Sciences

What is the effect of narrative framing in mass media news coverage of the George Floyd Protests on public perception of the events?

Daniel Haynes (G)

International Communication

Master of Science, The Lesley H. and William L. Collins College of Professional Studies

The Modern Segregation of the American Public School System

Cenaya Davis (U)

Legal Studies

Bachelor of Science, The Lesley H. and William L. Collins College of Professional Studies

The Second Zodiac Race: The Curious Case of the Repatriation of the Old Summer Palace Zodiac Heads

Valerie Fulmer (G)

Chinese Studies

Master of Arts, St. John's College of Liberal Arts and Sciences

Analyzing Determiners of Academic Success

Nolen Llanes (U)

International Management

Bachelor of Science, The Peter J. Tobin College of Business

3. Healthcare and Small Molecule-based Therapeutics for Diseases DAC 416C

Metabolic Links between Diabetes Mellitus and a Rare Epilepsy

Ehab M. Abo-Ali (G)

Pharmaceutical Sciences

Doctor of Philosophy, College of Pharmacy and Health Sciences

Synthesis and Characterization of Tris(2,2'-bipyridine) ruthenium (II) Derivatives Using the 3,3'-Dimethyl-1,1'-Methylenebisimidazolium Ligand

Matthew Schneider (G)

Chemistry

Master of Science, St. John's College of Liberal Arts and Sciences

The Potential of Psychoeducational Materials to Facilitate Conversations About Discrimination and Depression

Aldona Chorzepa (G)

Psychology

Master of Science, St. John's College of Liberal Arts and Sciences

Analyzing the Efficacy of New York State Mental Hygiene Programs on Managed Care Claims for Substance Abuse Disorders

Claudia Kwasiborski (G)

Pharmacy Administration and Public Health

Doctor of Pharmacy, College of Pharmacy and Health Sciences

STUDENT RESEARCH CONFERENCE



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