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12th Annual Undergraduate Research Conference

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SCHEDULE AT-A-GLANCE

April 10
Interdisciplinary Poster Sessions 12:30 to 1:45, Science Hall Lounge

April 12
Interdisciplinary Poster Sessions 12:30 to 1:45, UC Ballrooms B&C
College of Education 12:30 to 2:30, UC Student Center 216
Cheng Library Authors Reception and OSP Recognition Awards 3:30 to 5:00, UC Ballroom A

April 13
Paterson Metropolitan Region Research Center Atrium Auditorium, 10:00 to 5:00

April 14
12th Annual Undergraduate Research Symposium UC Ballrooms, 8:00 to 5:30

April 17
Honors Research Week Presentations 9:00 to 4:00, UC 168A&B, and 7:00 to 9:00, Cheng Auditorium
College of Science and Health 11:00 to 3:15, UC Ballroom A
Technology Across the Curriculum 11:00 to 12:15, UC 171A&B
Interdisciplinary Presentations #1 2:00 to 3:15, UC 171A&B
Cotsakos College of Business 11:00 to 1:45, Valley Rd Auditorium

April 18
Honors Research Week Presentations 12:30 to 4:30, UC 168A&B
Interdisciplinary Presentations #2 11:00 to 12:15, UC 171A&B
Sonic Divide, a film 12:30 to 2:30, Cheng Library Auditorium

April 19
Honors Research Week Presentations 9:00 to 3:00, UC 168A&B
Interdisciplinary Presentations #3 11:00 to 12:15, UC 171A&B
College of Arts and Communication 12:30 to 1:45, UC 171A&B
Interdisciplinary Presentations #4 12:30 to 1:45, UC Student Center 216
Office of Sponsored Programs 2:00 to 3:15, UC 171A&B
College of Humanities and Social Sciences 2:00 to 3:30, Atrium 126
PARTNER PROGRAMS RELATED TO RESEARCH, SCHOLARSHIP AND CREATIVE EXPRESSION AT WP

4th Annual Cyber Security and Big Data Analytics Symposium
UPS Computer Information Technology Lecture Series
Friday, April 6, Valley Road, 9:00 to 3:00
(Pre-registration required)

Elementary Education Earth Day Water Fair
Monday, April 9, Valley Road Cafe, 9:00-1:00

Paterson School 12 Community Garden Clean up and Spring Planting
Thursday, April 12, School 12 Community Garden (intersection of North Second Street and Halpine Street in Paterson), 9:00-1:00

Paterson Metropolitan Region Research Center,
“Paterson Through the Arts”
Friday, April 13, Atrium Auditorium, 10:00 to 5:00

12th Annual Undergraduate Research Symposium
Saturday, April 14, 8:00 to 5:30, UC Ballrooms
(Pre-registration required)

Annual Spring Writer's Conference
Saturday, April 14, UC Multipurpose Room, 9:30 to 3:30
(Pre-registration required)

Mathematics Awareness Week 2018, “Capstone Projects”
Monday, April 23 to Friday, April 27, Science Hall East 3037, 12:30 to 1:45
Wednesday, April 25: Guest Speaker Joseph DeGaetani, Candy Sharing Games,
Science Hall East 3027, 12:30 to 1:45

"Global White Supremacy and the Criminalization of Antiracism in France and the United States?" Lecture by Dr. Crystal Fleming
Wednesday, April 25, Cheng Library Auditorium, 12:30

Do you know of a program or activity related to research, scholarship or creative expression that will be happening between April 2 and May 5?
Activities can include student presentations and recitals, outside speakers, department symposia, and art exhibitions. Call or email the Office of Sponsored Programs at 973-720-2852 or grants@wpunj.edu with the name and date of the program, the URL for detailed information and we will add your program to the schedule on the web and send you the Explorations 3-leaf logo for your flyer or program.
The University Honors College at William Paterson University is a place where academically gifted students explore new ideas and engage in intellectual and creative collaborations with experienced and dedicated members of the faculty. It offers a rigorous curriculum with a challenging array of courses, seminars, and co-curricular activities. The University Honors College provides a comprehensive educational experience that brings together the academic, residential, social, and cultural experiences of its students. It is open to students in all colleges and majors. Nearly 400 students are currently enrolled in the Honors College.

Honors College students participate in a first-year program of Honors courses in the University Core Curriculum. Subsequently, they pursue an interest through one of the 10 honors research or creative tracks, in addition to the disciplinary major. The tracks prepare the student for independent research and result in a senior level thesis or creative project.

www.wpunj.edu/honors

Raubinger Hall
Room 154
973.720.3657
honors@wpunj.edu

Find us on Facebook!
William Paterson University Honors College
12th ANNUAL UNDERGRADUATE RESEARCH SYMPOSIUM

Saturday, April 14, 2018

You are cordially invited to attend and present your research at the 12th annual Undergraduate Research Symposium in the Biological and Chemical Sciences at William Paterson University of New Jersey. In its 12th year, this regional symposium provides an excellent forum for undergraduate researchers to present their original work at a regional meeting. Posters are invited in the following areas of research:

**Physiology, Behavior, Cell & Molecular Biology, Genetics and Ecology & Evolution, Environmental Science**

**Organic and Inorganic Chemistry, Biochemistry, Nano Chemistry, General & Physical Chemistry and Materials Chemistry**

Posters will be judged by a panel of attending Mentors and awards will presented to the best undergraduate poster presenters. Participant Abstracts will be published in a Symposium Proceedings. For more information and Free Registration log onto: www.wpunj.edu/cosh/departments/biology/urs/
Or: http://www.wpunj.edu/cosh/departments/chemistry/wpu-research-symposium.html

Send your Abstract and Registration by March 26, 2018 at: biochemurs@wpunj.edu

**PLENARY SPEAKER:**

Professor Rigoberto Hernandez, Gompf Family Professor of Chemistry & Director of (OXIDE), Johns Hopkins University
“Benign By Design, From The Nanoscale To The Human Scale”

**SCHEDULE:**

Registration & Breakfast  
8:00 – 8:45 am
Welcome and Opening Remarks  
8:45 – 9:15 am
Poster Session A  
9:15 – 11:15 am
Lunch Break  
11:45 – 1:00 pm
Plenary Talk  
1:00 – 2:00 pm
Poster Session B  
2:00 – 4:00 pm
Awards Ceremony  
4:30 – 5:00 pm

**PLACE:**  
University Commons Ballroom
Office of Sponsored Programs

Promoting Ideas Into Knowledge

The Office of Sponsored Programs (OSP) provides assistance and support to William Paterson University faculty and staff who seek external grant or contract support for research, teaching, service, public programs, creative endeavors, conferences and other types of projects from federal, state, and other government sponsors, grantmaking public charities, professional associations, and some commercial sponsors. The OSP concentrates its activities in three areas:

- Proposal development, submission and finalization of contracts (Pre-Award)
- Award set-up, management, and reporting (Post-Award)
- Fulfillment of contract terms and regulatory requirements (Compliance)

Mission and Services

The mission of the Office of Sponsored Programs is to provide value-added assistance to encourage, develop, and support the research, scholarship, education, creative and community service aspirations of William Paterson University’s faculty, staff, and students.

The Office of Sponsored Programs accomplishes its mission by:

- Collaborating in the development of projects and leading the submission of proposals to Federal, State, and other government sponsors, grantmaking public charities, professional associations, and some commercial sponsors.
- Securing and initiating awards, supporting stewardship and compliance requirements, and assisting in closing out individual awards.
- Developing, monitoring and implementing policies to ensure compliance with sponsor expectations and related regulatory requirements.

Benefits of External Support

- Increases impact of research activities that create new knowledge
- Encourages artistic activity that creates and shares culture
- Promotes teacher professional development that enables excellent educational practices
- Recognizes the contributions of the recipient’s research, creative or service activity to their colleagues and the community
- Supports business development that strengthens the economy
- Inspires students to reach their goals
- Engages project leaders in personal and professional growth

If you are interested in seeking external funding to support a new or ongoing project or activity, contact the OSP:

973-720-2852
Christine Bravo
Assistant Director  BravoC4@wpunj.edu
309 Raubinger Hall
www.wpunj.edu/osp
Paterson Metropolitan Region Research Center Annual Conference
Sponsored by William Paterson University

Paterson Through the ARTS

ATRIUM

Friday, APRIL 13, 2018

Program Schedule

- 10:30 am – 11:30 am  Screening of **All That Lies Between Us**
- 11:45 am – 12:45 pm  Artist Panel 1
- 12:45 pm – 1:45 pm   Lunch and Book launch of **Paterson Lives**
- 2:00 pm – 3:15 pm    Artist Panel 2
- 3:30 pm – 5:00 pm    Poster session and display of artwork created by Paterson School 12 Third Graders

This event is open to the public.
Refreshments will be served.
Sponsored, Interdisciplinary and Poster Session Detailed Schedules

Tuesday, April 10

Interdisciplinary Poster Session  12:30 to 1:45, Science Hall Breezeway

Joanne Affinito, Nursing
Recognizing Burden in Unpaid Caregivers of End Stage Renal Disease Patients

Ksawery Biskup, Austin Degan, Michael Griffiths, Environmental Science
Environmental evaluation of mid-atlantic coastal wetlands from paired geochemical and diatom analysis of sediments

Charles Faulkner, Psychology
Football Archival Study

David Hack, Kinesiology
Motivations and Objectives for Corporate Sponsorship of Gay Games IX

Mariam Hammouda, Zoe Meleo-Erwin, Corey Basch, Aleksandar Kecojevic, Public Health
A narrative analysis of Pre-Exposure Prophylaxis (PrEP) YouTube Videos

Jonathan Harris, Jeremy Scott, Allison DellaBella, Jennifer Callanan, Michael DaSilva, Gregory Pope, Matthew Hazen, Environmental Science
Investigation of soil chemistry one year after the 16 mile fire, Delaware State Forest, PA

Djanna Hill, Jyoti Champanerkar, Department of Secondary/ Middle School Education
STEM4EDU: Recruitment and Retention of Science and Math Teachers Who Inspire Learning in High Needs Districts

Ma. Veronica Holganza, Kevin Martus, Jaishri Menon, Department of Biology
Plasma Exposure and Tail Regeneration: The Interplay of Calcium with Mitochondria and Peroxisomes.

Jenny Jeanpierre, Ruchael McNair, Jordan Stewart, Amy Learmonth, Psychology
Three-year-olds use of information in the environment in an object search task

Weihua Liu, Bogong Su, Michael Greco, Dev Dave, Camila Murillo, Natalia Zaytseva, Computer Science
Preliminary Study of Machine Learning Techniques for Software Performance Prediction

Lara LoBue, Meredith Connolly, Amy Learmonth, Psychology
Imitation in Children with ASD: Goal Completion Ability

Aura Lora, Toni LaSala, Michael Figueroa, Kinesiology
The Acute Physiological Adaptations of High Intensity Interval Training on an Anti-Gravity Treadmill

Kem Louie, Betty Kollia, Persephone Vargas, Michael Figueroa, Toni Lasala, Racine Emmons
Hindelong, Nursing
Evaluation of Interprofessional competencies among graduate nursing students, communication disorder and exercise science students
Maitry Mahida, Natalie Lindemann (Obrecht), Psychology
Credibility and Salience predict increased Risk Perception, but do not lead to an Inverted U-shape function

Tyler Mortensen, Racine Emmons, Michael Figueroa, Kinesiology
The Effect of Sucrose vs Non-Nutritive Sweeteners on Blood Glucose Levels During Exercise

Jose Munoz, Biology
The Effects of Modulation of a Potassium Channel on Social Behavior After a Traumatic Brain Injury

Nicholas Murray, Amy Learmonth, Psychology
Creating a Virtual Space to Better Understand Human Navigation

Samantha Nieves, Jashri Menon, Kevin Martus, Chemistry
Characterization of a Plasma Source used to Accelerate Wound Healing of the Tadpole Xenopus Laevis

Sharon Puchalski, Renee Pevour, Gina Pasquale, Nursing
Perceptions and experiences of undergraduate nursing students in pharmacology: Strategies for Success

Sharon Puchalski, Nicole Despirito, Nursing
Physical Activity: Utilizing guidelines to promote health among pregnant women

Rachelle Romero, Corey Basch, Public Health
Health Information Seeking Among College Students

Allison Salehi, Jyoti Champanerkar, Mathematics
How long will your iPod last?

Reem Shair, Abigail Urena, Karinna Gonzalez, Andrea Pereda, Public Health
An environmental assessment of tobacco use on WPU campus

Alexandrina Sorokina, Ksawery Biskup, Karliann Blumenfeld, Austin Degen, Richard Plattel Nazila Yekanifard, Jennifer Callanan, ENV 3760 Fall 2017 Students of Soil and Water Analysis, Environmental Science
Analysis of Non-Point Source Pollution of Oldham Pond

Sara Steinel, Cyril Ku, Corey Basch, Thomas Marlow, Ana Ocampo, Computer Science
A Knowledge Discovery Approach to Mental Health Problems in New York City: Phase One

Bogong Su, Erh-Wen Hu, Jian Wang, Computer Science
Software Performance Prediction at Source Level

Abigail Urena, Karinna Gonzalez, Reem Shair, Pereda Andrea, Aleksandar Kecojevic, Public Health
Use of campus-wide events and social media to support Tobacco-Free Campus Initiative at WPU

Miryam Wahrman, Amanda Nowakowski, Biology
Differential adherence of bacteria to microfiber and scrubs
Thursday, April 12

Interdisciplinary Poster Session  12:30 to 1:45, UC Ballrooms B&C

Lydia Albuquerque, Daria Napierkowski, Nursing
Predictors of readmissions among heart failure patients

Diana Bae, Kevin Sales, SoYon Rim, Psychology
Social Exclusion and Empathic Accuracy

Diana Bae, Kevin Sales, SoYon Rim, Psychology
Social Distance and Memory for Pictures vs. Words

Judy Bernstein, Languages and Cultures
Stigmatized Englishes (LANG 3010) and Structure of Language (LANG 3050) Posters

Caylynn Carls, Jamie Dubinski, Psychology
Youth Concussions in American Football: What We Know and What We Need to Know

Ben Chianchiano, Jason Wicke, Kristen Bowe, Sara Garner, Kinesiology
Comparing Electromuscularstimulation as a Warm-up Technique vs. Traditional Dynamic Warm-ups and its Influence on Athletic Performance.

Megan Conrad, Govinda Mota, Psychology
Does anthropomorphism decrease children’s learning about zoo animals?

Racine Emmons, Michael Figueroa, Toni LaSala, Kinesiology
Postprandial Lipemic Responses after a High-Fat Meal and Low- or High-Intensity Interval Exercise

Philip Garcia, Corey Basch, Public Health
Celiac Disease on YouTube

Sara Garner, Jason Wicke, Samantha Legreaux, Ben Chianchiano, Kinesiology
Deceleration-focused shoulder rehabilitative strategies in baseball and softball athletes.

Christi Kline, Clint Mautz, Environmental Science
Nautiloid Cephalopods from Glacial Erratics: Evidence for Lag Deposit Formation in the Rickard Hill Facies of the Saugerties Member of the Schoharie Formation (Lower Devonian-Late Emsian), Helderberg Mountain Region, New York State, U.S.A.

Toni LaSala, Jordan Cola, Genevieve Pinto Zipp, Michael Figueroa, Kinesiology
Energy Expenditure of Obese Men Walking with Body Weight Support

Lynne Orr, College of Education
Engaging Students with Informal Assessments Using Apps

Allison Neumann, Drew Pedersen, Christi Kline, Clint Mautz, Chelesia Clarke, Michaela Gardiner, Michael Griffiths, Martin Becker, Robert Eagle, Harry Maisch, Robert Gamramiello, Aradha Tripati, Environmental Science
The Extinction of the Megatoothed Shark Otodus megalodon: Evidence from Clumped Isotope Thermometry (CIT)
Karan Patel, Toni LaSala, Jordan Cola, Racine Emmons, Michael Figueroa, Jacob Dabon, Kinesiology
*Caffeine Supplementation on Anaerobic Power during Sprint Interval Exercise*

Erin Quinn, Michael Figueroa, Kinesiology
*Cardiac Rehabilitation Case Study*

Andrea Pereda, Abigail Urena, Reem Shair, Karinna Gonzalez, Aleksandar Kecojevic, Public Health
*Exploring Support for 100% Tobacco-Free Campus Policy at WPU*

Zachary Robbins, Michael Figueroa, Kinesiology
*Effects of Self-Myofascial Release on Anaerobic Power*

Priyadharshiny Sandanapitchai, Sumithra Raghavan, Psychology
*Exploring Resilience in a Multinational Sample of Trauma Survivors*

**College of Education** 12:30 to 2:30, UC Student Center 216

Heejung An, Triada Samaras, Simone Sandler, Jennifer Post, Dina Scacchetti, Nancy Norris-Bauer
*Effective Arts Integration Approaches in High Needs School Districts*

Alex Chambers, Special Education and Counseling
*Latino Male College Students with Learning Disabilities and Requesting Accommodations*

Carrie Eunyoung Hong, Educational Leadership and Professional Studies
*Deepening Teacher Learning with Video Clubs*

Samuel Fancera, Educational Leadership and Professional Studies
*School Climate and Academic Performance in New Jersey*

Laura Fattal, Sandra Alon, Arielle Testa, Elementary and Early Childhood Education
*Global Education understood through Interdisciplinary Experiential Teaching and Learning*

David Fuentes, Melissa Margaritis, Elementary and Early Childhood Education
*Paterson Unearthed: Local PDS Students Cultivate Place-Based Stories About Home*

Julie Rosenthal, Elizabeth Brown, Elementary and Early Childhood Education
*The Collaborative Constructivist Approach*

Janis Strasser, Elementary and Early Childhood Education
*Big Questions for Young Minds: Extending Children’s Thinking*

Lisa Warner, Roberta Schorr, Gerald Goldin, Elementary and Early Childhood Education
*Analyzing Prospective Teachers’ Motivating Desires During Mathematical Problem Solving*

**Authors Reception, David and Lorraine Cheng Library**

**Recognition of Recent Award Recipients, Office of Sponsored Programs**

**Thursday, April 12, Ballroom A, 3:30 to 5:00**
Tuesday, April 17

College of Science and Health  11:00 to 12:15, Ballroom A

Beth Davidoff, Communication Disorders
*Maternal Language Input to Beginning Communicators with Autism Spectrum Disorder: What Mothers Talk About*

Parminder Kaur, Hyun Lim, Prianka Chohan, Dina Moustafa, Chelsea Sweet, Chemistry
*Green pathway: Mn-Terpyridine catalyzed dehydrogenative acceptorless coupling of amines and alcohols to give aldimine*

Mihaela Jitianu, Chemistry
*Anionic clays as Titanium dioxide enhancers. Sol-gel pathway and photocatalysis.*

Yalan Xing, Chemistry
*Development and Applications of Alkyne Di-functionalization Methodology*

Technology Across the Curriculum  11:00 to 12:15, UC 171A&B

Thomas Heinzen, Psychology
*Game-Based Assessment*

Aleksandar Keojevic, Cory H. Basch, Charles E. Basch, William Kernan, Public Health
*Pre-Exposure Prophylaxis (PrEP) YouTube Videos: A Content Evaluation*

Donna Rennar-Potacco, Science Enrichment Center
*Factors Influencing Student Adoption of Synchronous Videoconferencing for Online Instruction and Support*

Lydia York, Philosophy
*Online Roleplaying for Democracy and Ethics: Early Best Practice Indicators*

Cotsakos College of Business  11:00 to 1:45, Valley Road Auditorium

James Samuel, Rajiv Kashyap, Marketing and Management Sciences
*When the going gets tough, the tweets get going! Sentiment analysis for social media posts and real world implications.*

Tao Guo, Economics, Finance and Global Business
*Impact of Health Insurance Mandate on Household Financial Wellbeing*

Stephen Betts, Robert Laud, Andrey Kretinin, Marketing and Management Sciences
*Social Entrepreneurship: A Contemporary Approach to Solving Social Problems*

Ali Mir, Raza Mir, Sia Nassiripour, Marketing and Management Sciences
*(De)Colonizing the Future: Student Debt and Race*
Bahar Ashnai, Prabakar Kothandaraman, Ki Hee Kim, Professional Sales
An Investigation of Gender and Ethnicity Biases and Stereotypes in Salespeople Performance Evaluation and Recruitment

Francis Cai, Ge Zhang and LianZan Xu, Economics, Finance and Global Business
Institutional Trading and Stock Pinning

Sambhu Basu, Kenneth Farrell, Economics, Finance and Global Business
Credit Analysis and Management In Middle Market Commercial Banking: Case Studies

Valeriya Avdeev, Hannah Wong, Accounting and Law
Ethical Issues for a Business Practitioner - Best Practices and Case Studies

Susan Godar, Bela Florenthal, Marketing and Management Sciences
Nonprofits Meet Millennials: A Conceptual Framework

Mahmoud Watad, Lezlie Dias, Marketing and Management Sciences
A comparative study linking innovation with economic development of three countries: Belgium, Portugal, and Tunisia

College of Science and Health 12:30 to 1:45, Ballroom A

Venkat Sharma, College of Science and Health
Value of Research in a Regional Comprehensive University as Part of Experiential Learning

Interdisciplinary Presentations #1 2:00 to 3:15, UC 171 A&B

Nicholas Hirshon, Communication
We Want Fish Sticks: The Bizarre and Infamous Rebranding of the New York Islanders

Payton MacDonald, Music
Sonic Divide, 10 minute short

Leslie Nobler, Art
Digital Printing: Going Beyond Digital with Art History – A Focus on the Marginalized

Annamarie Klose Hrubes, David & Lorraine Cheng Library
Introducing WPSphere, William Paterson University’s Institutional Digital Repository

College of Science and Health 2:00 to 3:15, Ballroom A

James Arnone, Biology
Adjacent Gene co-Regulation via Genomic Clustering in Transcriptionally Permissive Loci

Jonathan Foley, Noor Eldabagh, Matt Micek, Chemistry
Resonance Energy Transfer Mediated by Composite Nanostructures

Weihua Liu, Computer Science
Linear Complexity of Pseudorandom Sequences Generators

Zoe Meleo-Erwin, Public Health
Patients’ perspectives on the role of post-operative support following bariatric surgery: A qualitative analysis
Wednesday, April 18

Interdisciplinary Presentations #2  11:00 to 12:15, UC 171A&B

Megan Conrad, Emily Kim, Katy-Ann Blacker, Zachary Walden, Vanessa LoBue, Psychology
Learning about contagion: Using storybooks to encourage children’s behavioral avoidance of illness

Carol Frierson-Campbell, Music
A Place for Musicking in Palestine: Stories from the West Bank and East Jerusalem

Lynne Orr, Alex Chambers, Alex Corsillo, Azaria Cunningham, Dean’s Office, College of Education
Investigation of Praxis Core: Test Completion of Teacher Candidates

Keumjae Park, Sociology
Max Weber and East Asian Development

Sonic Divide, a film  12:30 to 2:30, Library Auditorium

Payton MacDonald, Music

Thursday, April 19

Interdisciplinary Presentations #3  11:00 to 12:15, UC 171A&B

David Gilley, Sarafina Cartelli, Lauren Poletti, Biology
How do honey bee colonies respond to components of the waggle-dance pheromone?

Michael Griffiths, Environmental Science
Megadroughts and human migration in Southeast Asia over the past 10,000 years

Martin Williams, Office of Sponsored Programs
The Research Development Strategy for Improving Success in Receiving Grants and Contracts

College of Arts and Communication  12:30 to 1:45, UC 171 A&B

Jennifer Owlett, Kelly Rossetto, Communication
Beyond Blurred Boundaries: Mediated Social Support for Military Partners

Jamsheed Akrami, Communication
Dissident Cinema

Christopher Herbert, Music
Voices in the Pennsylvania Wilderness: An Examination of the Music Manuscripts, Music Theory, Compositions, and (Female) Composers of the Eighteenth-Century Ephrata Cloister
Interdisciplinary Presentations #4  12:30 to 1:45, Student Center 216

Priyadharshiny Sandanapitchai, Sumithra Raghavan, Psychology
*Exploring Resilience in a Multinational Sample of Trauma Survivors*

Glen Sherman, Student Development
*Moving from Wellness to Well-Being and the Center of Higher Education*

Billy Tsang, Psychology
*Arousal during stressful task completion linked to state anxiety in female but not male emerging adults*

Office of Sponsored Programs  2:00 to 3:15, UC 171 A&B

Christine Bravo, Office of Sponsored Programs
*Updates and Strategies for Submitting Proposals to the National Science Foundation (NSF)*

College of Humanities and Social Sciences  2:00 to 3:30, Atrium 126

Kara Rabbitt, College of Humanities & Social Sciences, Moderator
*HSS Senior Faculty Research Forum*

Rajender Kaur, English
*India in the American Imaginary, 1780s-1880s*

Pete Mandik, Philosophy
*Future Technology and the Frontiers Self-Awareness*

Jan Mohlman, Psychology
*Mood Swings and the Challenges They Bring*
TUESDAY, APRIL 17
9:00 A.M.—4:00 P.M. UC 168 A/B
Presentations by students in the following Honors tracks:
Business, Humanities, Clinical Psychology

7:00 — 9:00 P.M.
Cheng Library Auditorium
Presentations by students in the
Honors Performing and Literary Arts Track.
Reception follows in the Library Friends’ Lounge.

WEDNESDAY, APRIL 18
12:30 P.M.—4:30 P.M., UC 168 A/B
Presentations by students in the following Honors Tracks:

THURSDAY, APRIL 19
9:00 A.M. — 3:00 P.M., UC 168 A/B
Presentations by students in the following Honors Tracks:
Nursing, Independent, and Biology.

ABOUT HONORS WEEK AND EXPLORATIONS 2018
Each spring, the Honors College showcases the work of students who are completing one of the Honors College tracks, and recognizes the faculty and staff members who have contributed to their success. Congratulations to all of the outstanding individuals who are participating in Honors Week/Explorations 2018! For more information please visit: http://www.wpunj.edu/osp/explorations/

WILLIAM PATerson UNIVERSITY
Kathleen Waldron
University President

Warren Sandmann
Provost and Senior Vice President for Academic Affairs

UNIVERSITY HONORS COLLEGE
Raubinger 154
300 Pompton Road
Wayne, New Jersey
honors@wpunj.edu
www.wpunj.edu/honors
Tuesday, April 17
UC 168 A/B

9:00  Kristen Podmajersky (BU)
9:15  Jackie Scordo (BU)
9:30  Hailey Ismailovski (BU)
9:45  Moetaz Shair (BU)
10:00 Seongwon Kim (BU)
10:15 Thomas Savoie (BU)
10:30 Estefania Sanchez (BU)
10:45 Rachel Rivell (BU)
11:00 Erik Slump (BU)
11:15 James Hook (BU)

BREAK

12:00 Matthew Norton (HUM)
12:15 Erika Ureta (HUM)
12:30 Nia Hayes (HUM)
12:45 Carley D’Auria (HUM)
1:00 Nagyla Obien (HUM)

BREAK

2:15 Annelise Malgieri (CP)
2:30 Andreas Katsoudas (CP)
2:45 Tyler Kennedy (CP)
3:00 Nancy Bzadough (CP)
3:15 Natalie Arcello (CP)
3:30 Sara Zammit (CGSI)
3:45 Hannah Breckenridge (MUS)

Wednesday, April 18
UC 168 A/B

12:30  Kimberly Boyle (CGSI)
12:45  Adeline Camacho (CGSI)
1:00   Matthew Ianuzzi (CGSI)
1:15   Summer Pirro (CGSI)
1:30   Quinn Reynolds (CGSI)
1:45   Izbela Grzebyk (CGSI)
2:00   Maitry Mahida (CGSI)

BREAK

3:00   Kelsey Harkins (SSH)
3:15   Karen Mendoza (SSH)
3:30   Kelley Breheny (SSH)
3:45   Miranda Galambos (SSH)
4:00   Steven Crammer (MUS)
4:15   Anthony Petruchello (MUS)
4:30   Steven Caporale (MUS)

Thursday, April 19
UC 168 A/B

9:00  Maridel Asuncion (NUR)
9:15  Jeremiah Bueno (NUR)
9:30  Rachel Felton (NUR)
9:45  Katelyn Gunn (NUR)
10:00 Bayan Hammoudeh (NUR)
10:15 Morgan Keck (NUR)
10:30 Amanda Mallilin (NUR)
10:45 Amanda Nowakowski (NUR)
11:00 Fallon Salkins (NUR)
11:15 Celine-ann Samaniego (NUR)
11:30 Melanie Tanis (NUR)
11:45 Janella Mae Tenorio (NUR)
12:00 Erica Wu (NUR)
12:15 Alexandria Soden (IND)
12:30 Catherine Esguerra (IND)
12:45 Dhara Jadav (IND)

BREAK

1:15  Nicole Miller (BIO)
1:30  Trevor Courtright (BIO)
1:45  Rita De-Almeida (BIO)
2:00  Nicholas Morelli (BIO)
2:15  Yuliana Cruz Herrera (BIO)
2:30  Megan Deschaime (BIO)
2:45  Tehreem Tahir (BIO)

Performing & Literary Arts Track Presentations
Tuesday, 4/17 – 7:00 p.m.
Cheng Library Auditorium
(order to be announced)

Michael Aromando
C’shae Bess-Perez
Nejesia Brown
Jan Feigenbaum
Jamie Gentile
Joseph Larkin
Rebecca Levin
Eros Livieratos
Daniel Popoloski
Morgan Taylor
Whitney Wu

HONORS COLLEGE TRACK DIRECTORS
Barbara Andrew
Independent
Chen-Ho (Mike) Chao
Business
Philip Cioffi
Performing and Literary Arts
Bruce Diamond
Clinical Psychology and Neuropsychology
Jeffrey Kresky
Music
Neil Kressel
Social Sciences
Amy Learmonth
Cognitive Science
Jill Nocella
Nursing
K. Molly O’Donnell
Humanities
Joseph Spagna
Biology

Reception follows in the Library Friends’ Lounge
next door to the Auditorium.

TRACK CODES
BIO  Biology
BU  Business
CGSI  Cognitive Science
CP  Clinical Psy. & Neuropsychology
HUM  Humanities
IND  Independent
MUS  Music
NUR  Nursing
PLA  Performing and Literary Arts
SSH  Social Sciences
<table>
<thead>
<tr>
<th>Name</th>
<th>Honors Track</th>
<th>Major</th>
<th>Thesis Title</th>
<th>Thesis Advisor(s)</th>
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<tbody>
<tr>
<td>Natalie Arcello</td>
<td>Clinical Psychology and Neuropsychology</td>
<td>Psychology</td>
<td>Sensation Seeking and Offenders</td>
<td>Dr. Bruce Diamond</td>
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<tr>
<td>Michael Aromando</td>
<td>Performing and Literary Arts</td>
<td>Art (BFA in Illustration)</td>
<td>Armory and the Magic Bag</td>
<td>Dr. Philip Ciofari</td>
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<tr>
<td>Maridel Asuncion</td>
<td>Nursing</td>
<td>Nursing</td>
<td>Hospital-Acquired Anemia and Diagnostic Blood Testing: A Review of the Best Prevention Strategies</td>
<td>Dr. Jill Nocella</td>
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<tr>
<td>C'Shae Bess-Perez</td>
<td>Performing and Literary Arts</td>
<td>Communication (Public Relations)</td>
<td>Just Another 20-Something Drama Queen</td>
<td>Dr. Philip Ciofari</td>
</tr>
<tr>
<td>Kimberly Boyle</td>
<td>Cognitive Science</td>
<td>Psychology</td>
<td>Cognitive Abilities of Students and Student Athletes</td>
<td>Dr. Amy Learmonth and Dr. David Freestone</td>
</tr>
<tr>
<td>Hannah Breckenridge</td>
<td>Music</td>
<td>Music Education</td>
<td>Charlotte Mason: Applying Her Philosophies to the Modern Music Classroom</td>
<td>Dr. Carol Frierson-Campbell and Dr. Jeffrey Kresky</td>
</tr>
<tr>
<td>Kelly Breheny</td>
<td>Social Sciences</td>
<td>Communication Disorders</td>
<td>Insurance Coverage of Eating Disorders</td>
<td>Dr. Kathleen Torsney and Dr. Neil Kressel</td>
</tr>
<tr>
<td>Nejesea Brown</td>
<td>Performing and Literary Arts</td>
<td>Art (BFA in Studio Art)</td>
<td>Comic Strip Art</td>
<td>Dr. Philip Ciofari</td>
</tr>
<tr>
<td>Jeremiah Bueno</td>
<td>Nursing</td>
<td>Nursing</td>
<td>How Attitudes and Beliefs of Undergraduate Nursing Students Influences Smoking Status and Cessation Practice: A Qualitative Study</td>
<td>Dr. Jill Nocella</td>
</tr>
<tr>
<td>Nancy Bzadough</td>
<td>Clinical Psychology and Neuropsychology</td>
<td>Psychology</td>
<td>The Neuroeconomics of Autism: A Translational Study</td>
<td>Dr. Bruce Diamond</td>
</tr>
<tr>
<td>Adeline Camacho</td>
<td>Cognitive Science</td>
<td>Mathematics</td>
<td>Subjective Socioeconomic Status and Moral Judgement and Reasoning</td>
<td>Dr. Amy Learmonth and Dr. David Freestone</td>
</tr>
<tr>
<td>Steven Caporale</td>
<td>Music</td>
<td>Jazz Studies and Music Education</td>
<td>An Analysis of Woody Shaw’s Compositions and Improvisations</td>
<td>Dr. Jeffrey Kresky</td>
</tr>
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</table>
TREVOR COURTRIGHT
Honors Track: Biology
Majors: Biology and Spanish
Thesis Title: Phenology of Honeybee Colonies and their Key Pollen Plants in the Urbanized New Jersey Landscape
Thesis Advisors: Dr. David Gilley and Dr. Joseph Spagna

STEVEN CRAMMER
Honors Track: Music
Major: Jazz Performance
Thesis Title: The Art ofTabla Solo: A Guided Performance
Thesis Advisor: Dr. Jeffrey Kresky

YULIANA CRUZ HERRERA
Honors Track: Biology
Major: Biology
Thesis Title: Characterization of Diadinoxanthin De-epoxidase Enzyme in Karenia brevis
Thesis Advisors: Dr. Emily A. Monroe and Dr. Joseph Spagna

CARLEY D’AURIA
Honors Track: Humanities
Major: English (Writing)
Thesis Title: Is Bad Representation Better Than No Representation?
Thesis Advisor: Dr. K. Molly O’Donnell

RITA DE ALMEIDA
Honors Track: Biology
Major: Environmental Science
Thesis Title: The Effects of Nitrogen Limitation on the Dinoflagellate K. brevis
Thesis Advisors: Dr. Emily A. Monroe and Dr. Joseph Spagna

MEGAN DESCHAINE
Honors Track: Biology
Major: Biology
Thesis Title: Testing the Enhancer-Promoter Sharing Model as a Mechanism Underlying Adjacent Gene Co-Regulation in Budding Yeast
Thesis Advisors: Dr. James Arnone and Dr. Joseph Spagna

CATHERINE CRUZ ESGUERRA
Honors Track: Independent
Major: Nursing
Thesis Title: The Virtual Echo Chamber: The Effect of Social Media Usage on Political Polarization
Thesis Advisors: Dr. Janet Ahn and Dr. Barbara Andrew

JAN FEIGENBAUM
Honors Track: Performing and Literary Arts
Major: English (Creative Writing)
Thesis Title: Double Identity: The First Book in the Blood Brothers Trilogy
Thesis Advisor: Dr. Philip Cioffi

RACHEL FELTON
Honors Track: Nursing
Major: Nursing
Thesis Title: The Attitudes of Nursing Students Toward Individuals with Substance Misuse Disorder
Thesis Advisor: Dr. Jill Nocella

MIRANDA GALAMBOS
Honors Track: Social Sciences
Majors: History and Early Childhood Education
Thesis Title: Exploring Resilience and Post-traumatic Growth in Survivors of Childhood Trauma
Thesis Advisors: Dr. Sumi Raghavan and Dr. Neil Kressel

JAMIE GENTILE
Honors Track: Performing and Literary Arts
Majors: Communication (Media Production and Media Studies)
Thesis Title: Binding
Thesis Advisor: Dr. Philip Cioffi

IZABELA GRZEBYK
Honors Track: Cognitive Science
Major: Psychology
Thesis Title: The Effects of Language Proficiency on Mathematical Abilities in Bilinguals
Thesis Advisors: Dr. Amy Learmonth and Dr. David Freestone
KATELYN GUNN  
Honors Track: Nursing  
Major: Nursing  
Thesis Title: How Does Workplace Violence in the Emergency Department Affect Nurses Physically and Psychologically: A Systematic Review  
Thesis Advisor: Dr. Jill Nocella

BAYAN HAMMOUDEH  
Honors Track: Nursing  
Major: Nursing  
Thesis Title: Nursing Students’ Attitudes and Beliefs Towards CAM  
Thesis Advisor: Dr. Jill Nocella

KELSEY HARKINS  
Honors Track: Social Sciences  
Major: Athletic Training  
Thesis Title: Work Life Balance in Athletic Training  
Thesis Advisors: Dr. Robb Rehberg and Dr. Neil Kressel

NIA HAYES  
Honors Track: Humanities  
Majors: Mathematics and Business  
Thesis Title: The Adventures of Beatrix Potter; A Victorian Writer, Scientist, and Entrepreneur  
Thesis Advisor: Dr. K. Molly O'Donnell

JAMES HAMILTON HOOK  
Honors Track: Business  
Major: Accounting  
Thesis Title: How do Millennials Choose Jobs?  
Thesis Advisors: Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao

MATTHEW IANNUZZI  
Honors Track: Cognitive Science  
Major: Psychology  
Thesis Title: The Hairy Enigma  
Thesis Advisors: Dr. Amy Learmonth and Dr. David Freestone

HAILEY ISMAILOVSKI  
Honors Track: Business  
Majors: Finance and Economics  
Thesis Title: Factors Affecting Credit Score  
Thesis Advisors: Dr. Chen-Ho (Mike) Chao and Dr. Bela Florenthal

DHARA BIPIN JADAV  
Honors Track: Independent  
Major: Nursing  
Thesis Title: Substance Abuse and Risky Academic Decision-Making in College Students  
Thesis Advisors: Dr. David Freestone and Dr. Barbara Andrew

ANDREAS KATSOUDAS  
Honors Track: Clinical Psychology and Neuropsychology  
Major: History  
Thesis Title: A Meta-Analysis on the Difficulties of Testing an Autistic Population  
Thesis Advisor: Dr. Bruce Diamond

MORGAN KECK  
Honors Track: Nursing  
Major: Nursing  
Thesis Title: Comparison of Mode of Delivery in Relation to Health Status of Newborns: A Systematic Review of the Literature  
Thesis Advisor: Dr. Jill Nocella

TYLER JULES KENNEDY  
Honors Track: Clinical Psychology and Neuropsychology  
Major: Psychology  
Thesis Title: Psilocybin’s Healing Potential  
Thesis Advisor: Dr. Bruce Diamond

SEONGWON WONNY KIM  
Honors Track: Business  
Majors: Global Business and Economics  
Thesis Title: The Consequences of Electronic Waste on Global Environment and Human Health  
Thesis Advisors: Dr. Chen-Ho (Mike) Chao and Dr. Bela Florenthal
JOSEPH LARKIN
Honors Track: Performing and Literary Arts
Major: Music Sound Engineering
Thesis Title: Helianthus
Thesis Advisor: Dr. Philip Cioffari

REBECCA LEVIN
Honors Track: Performing and Literary Arts
Majors: Music Education and Classical Voice
Thesis Title: The Art of Music: A Voice of Understanding in a World of Chaos
Thesis Advisor: Dr. Philip Cioffari

EROS LIVIERATOS
Honors Track: Performing and Literary Arts
Majors: English (Writing) and Philosophy
Thesis Title: A Small Hell
Thesis Advisor: Dr. Philip Cioffari

MAITRY MAHIDA
Honors Track: Cognitive Science
Major: Psychology
Thesis Title: Mediators of Risk Frequency and Risk Perception
Thesis Advisors: Dr. Natalie Obrecht and Dr. Amy Learmonth

ANNELISE MALGIERI
Honors Track: Clinical Psychology and Neuropsychology
Majors: Exercise Science and Psychology
Thesis Title: The Acute Effects of Music on Aerobic Fitness and Facial Recognition in an ASD Individual
Thesis Advisor: Dr. Bruce Diamond

AMANDA MALLILLIN
Honors Track: Nursing
Major: Nursing
Thesis Title: Does Understanding of Sexuality and Attitude Towards Sexuality by RNs and Students Affect Patient Care?: A Systematic Review of the Literature
Thesis Advisor: Dr. Jill Nocella

KAREN MENDOZA
Honors Track: Social Sciences
Majors: Political Science and Legal Studies
Thesis Title: Observing the Portrayal of Immigrants on American Children’s Programming
Thesis Advisors: Dr. Fanny Lauby McKinley and Dr. Neil Kressel

NICOLE MILLER
Honors Track: Biology
Major: Biology (Ecology)
Thesis Title: Investigating the Spatial Foraging Patterns of Apis mellifera L. in a Mixed Environment Setting Using Waggle Dance Decoding
Thesis Advisors: Dr. David Gilley and Dr. Joseph Spagna

NICHOLAS MORELLI
Honors Track: Biology
Major: Biology
Thesis Title: Learning and Decision Making in a Mouse Model of Autism
Thesis Advisors: Dr. David Freestone and Dr. Joseph Spagna

MATTHEW C. NORTON
Honors Track: Humanities
Major: History
Thesis Title: A Forgotten Generation: Hungarian Émigrés from 1848-1870
Thesis Advisor: Dr. K. Molly O’Donnell

AMANDA MARIE NOWAKOWSKI
Honors Track: Nursing
Major: Nursing
Thesis Title: The Effect of the NICU on Neonatal and Infant Sleep: An Integrative Review
Thesis Advisor: Dr. Jill Nocella

NAGYLA OBIEN
Honors Track: Humanities
Major: Biology
Thesis Title: DACA & the Dreamers’ Struggle for Higher Education
Thesis Advisor: Dr. K. Molly O’Donnell
ABOUT THE PRESENTERS…

ANTHONY PETRUCCELLO
Honors Track: Music
Major: Music Studies
Thesis Title: French Polyphonic Music of the 14th Century
Thesis Advisors: Dr. Anton Vishio and Dr. Jeffrey Kresky

SUMMER RAE PIRRO
Honors Track: Cognitive Science
Majors: Mathematics and Education
Thesis Title: Math Anxiety: The Adverse Effects of Anxious Teaching
Thesis Advisors: Dr. Amy Learmonth and Dr. David Freestone

KRISTEN PODMAJERSKY
Honors Track: Business
Major: Finance
Thesis Title: Perceived Fairness of Pay Moderates Motivation
Thesis Advisors: Dr. Chen-Ho (Mike) Chao and Dr. Bela Florenthal

DANIEL POPOLOSKI
Honors Track: Performing and Literary Arts
Majors: Communication (Print Journalism & Broadcast Journalism, Public Relations)
Thesis Title: Living in Ignorance
Thesis Advisor: Dr. Philip Cioffari

QUINN REYNOLDS
Honors Track: Cognitive Science
Majors: Mathematics and Elementary Education
Thesis Title: Do Adults Remember Elementary School Material?
Thesis Advisors: Dr. Amy Learmonth and Dr. David Freestone

RACHEL RIVELL
Honors Track: Business
Major: Financial Planning
Thesis Title: How Effective is Social Media Advertising on Millennials?
Thesis Advisors: Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao

FALLON SALKINS
Honors Track: Nursing
Major: Nursing
Thesis Title: Dignity in End of Life Care: A Systematic Review of the Literature
Thesis Advisor: Dr. Jill Nocella

CELINE-ANN SAMANIEGO
Honors Track: Nursing
Major: Nursing
Thesis Title: What are the Effects of Therapeutic Humor on Emotions in the Geriatric Population: A Systematic Review of the Literature
Thesis Advisor: Dr. Jill Nocella

ESTEFANIA SANCHEZ
Honors Track: Business
Major: Accounting
Thesis Title: The Academic Performance of Caregivers
Thesis Advisors: Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao

THOMAS SAVOIE
Honors Track: Business
Majors: Professional Sales
Thesis Title: What Factors are Preventing College Students from Saving for the Future?
Thesis Advisors: Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao

JACKIE NOEL SCORDO
Honors Track: Business
Major: Accounting
Thesis Title: Factors Affecting Millennial Retention in the Workplace
Thesis Advisors: Dr. Chen-Ho (Mike) Chao and Dr. Bela Florenthal

MOETAZ SHAIR
Honors Track: Business
Major: Global Business
Thesis Title: Effects of Corporate Scandals on the Stock Market
Thesis Advisors: Dr. Chen-Ho (Mike) Chao and Dr. Bela Florenthal
ABOUT THE PRESENTERS…

ERIK PIETER SLUMP
Honors Track: Business
Major: Global Business
Thesis Title: *Natural Disaster Prevention for New Jersey*
Thesis Advisors: Dr. Bela Florenthal and Dr. Chen-Ho (Mike) Chao

ALEXANDREIA SODEN
Honors Track: Independent
Major: Nursing
Thesis Title: *A Systematic Review: Comparison of Full-Term Vaginal and Cesarean Birth Outcomes*
Thesis Advisors: Dr. Julie Bliss and Dr. Barbara Andrew

TEHREEM TAHIR
Honors Track: Biology
Major: Biotechnology
Thesis Title: *Creating an Axenic Culture of the Toxic dinoflagellate Karenia brevis, and Comparing its Growth Rate and Brevetoxin Production to Xenic Cultures of K. brevis*
Thesis Advisors: Dr. Carey Waldburger and Dr. Joseph Spagna

MELANIE B. TANIS
Honors Track: Nursing
Major: Nursing
Thesis Title: *Knowledge & Attitudes of Nurses Regarding Breastfeeding in Relation to a Mother’s Decision to Breastfeed Exclusively: A Systematic Review of the Literature*
Thesis Advisor: Dr. Jill Nocella

MORGAN TAYLOR
Honors Track: Performing and Literary Arts
Major: Art (BFA)
Thesis Title: *Monster Hunter Game*
Thesis Advisor: Dr. Philip Cioffari

JANELLA MAE TENORIO
Honors Track: Nursing
Major: Nursing
Thesis Title: *Nursing Students’ Attitudes Toward Older Adults: A Systematic Review of the Literature*
Thesis Advisor: Dr. Jill Nocella

ERIKA URIETA
Honors Track: Humanities
Major: Biochemistry
Thesis Title: “Hi, Yank!” Soldier Shows and Troop Morale in WWII
Thesis Advisor: Dr. K. Molly O’Donnell

ERICA WU
Honors Track: Nursing
Major: Nursing
Thesis Title: *The Effects of Pet Therapy on Reducing Stress in College Students: A Systematic Review*
Thesis Advisor: Dr. Jill Nocella

WHITNEY WU
Honors Track: Performing and Literary Arts
Majors: Communication (Theater & Comedy, Public Relations)
Thesis Title: *A Series of Short Plays Regarding Depression and Suicide*
Thesis Advisor: Dr. Philip Cioffari

SARA PAIGE ZAMMIT
Honors Track: Cognitive Science
Majors: Communication Disorders and Anthropology
Thesis Title: *Anxiety and Achievement: Does Anxiety Have an Impact on Performance in College Students?*
Thesis Advisors: Dr. Amy Learmonth and Dr. David Freestone

HONORS COLLEGE STAFF
Barbara Andrew
Executive Director
Jan Pinkston
Assistant Director
Alice Armstrong
Administrative Assistant
Cynthia Areh
Graduate Assistant
Samantha Koprowski
Student Assistant
Abstracts

Alphabetical Listing by First Author
Abstracts

Joanne Affinito, Nursing

Recognizing Burden in Unpaid Caregivers of End Stage Renal Disease Patients

End Stage Renal Disease (ESRD) and its exacerbation can create burden not only for the patient but also for their caregiver. Many caregivers are unprepared to take on this new role and suffer the negative consequences of stress, anxiety, and depression impacting their own health. There is limited research on caregivers self-assessed level of health and the positive aspects of caregiving associated with their perceived degree of burden.

Purpose: This study will assist healthcare providers to identify burden & empower caregivers to develop strategies that support interventions that may minimize the degree of burden. It may also support caregivers to identify the positive aspects in their caregiving role.

Results: Caregivers with more positive aspects of caregiving was associated with lesser degrees of burden (p=0.004). Caregivers with higher levels of self-assessed health experienced a lesser degree of burden (p=0.000)

Conclusion: DNI’s need to assess the caregiver, care recipient dyad for the presence of burden throughout any chronic disease trajectory for health promotion and illness prevention for populations at risk.

Support was provided by the National Kidney Foundation.

Jamsheed Akrami, Communication

Dissident Cinema

This presentation will be based on a conversation between the filmmaker Jafar Panahi and film professor Jamsheed Akrami on free expression, or the lack thereof, in Iranian cinema over the past 50 years. It appears as a long article, entitled “Dissident Cinema,” in the spring issue of “World Policy Journal.”

Along with Abbas Kiarosatmi and Asghar Farhadi, Jafar Panahi is one of Iran’s most celebrated filmmakers. He’s also perhaps the most decorated, having won the top awards at the Venice Film Festival for “The Circle,” the Berlin Film Festival for “Taxi,” and Cannes’ Camera d’Or for his debut “The White Balloon.” He has accomplished all this despite having had more run-ins with Iran’s Islamic government than any other artist working today. In 2009, his incarceration while shooting a film about Iran’s street protests provoked an international uproar, forcing the government to release him after three months. Although an Islamic court subsequently sought to punish him with a six-year jail sentence and a 20-year ban from filmmaking, Panahi has courageously defied the ban and surreptitiously continued to make film.

Professor Akrami is the director of a trilogy of feature-length documentaries: “The Lost Cinema,” on Iranian cinema before the revolution, “Friendly Persuasion,” on Iranian cinema after the revolution, and “A Cinema of Discontent,” on film censorship in Iran, all of which are available through the distribution company Kino Lorber.

Support was provided by the WPU Assigned Release Time for Research Program (ART).

Lydia Albuquerque, Nursing

Daria Napierkowski, Nursing

Predictors of Readmissions among Heart Failure Patients

Heart failure is the leading cause of hospital readmission among elderly patients older than 65 years of age (Mozaffarian, 2016). The purpose of this quantitative, descriptive correlational research design was to investigate the relationship between self-reported functional status as measured by the New York heart failure Association (NYHA) Functional Classification and health related quality of life (HRQOL) to 30 day hospital readmission rates among patients with Heart failure (HF). Two hypothesis were tested in this study. 1) There will
be a positive correlation between increase in limitations as measured by functional status and hospital readmissions 2) There will be a positive correlation between increase in health related quality of life as measured by health related quality of life and hospital readmissions. The Wilson and Clearly model guided this research. The sample consisted of 66 participants who participated in the study. A Pearson Chi-square was used to test the statistical support for the hypothesis. The computed chi-square p value was =.044, which is under the required < .05. There is a statistical significance which supports the hypothesis that NYHA functional status classification is a predictor of hospital readmission. The average quality of life score among participants who were admitted was 85.6 while those who were not admitted had an average score 65.9. The independent sample t-test that was done to test for a relationship between health quality of life and readmission. The t values were all above 2 with p<.05. In each case those readmitted had significantly worse quality of life scores for all three measures (Physical, Emotional and other) with the mean difference shown to be statistically significant. Given the non-normal distribution of the quality of life scores, the t-test was supplemented with a Mann-Whitney U Test to test the significance of the differences in mean quality of life score by admission status. Results confirmed that there was a statistically significant difference (Mann-Whitney U=319.0; p=.008, p <0.01). A one- way ANOVA was calculated comparing the demographic variable to 30 day readmission rates a significant difference was found between monthly income and readmission (F=2.864, p< .05) and times patients were admitted in the hospital in past one year to readmissions (F=3.333, p< .010). The results of this study provide health care providers information about predictors of readmissions among participants diagnosed with HF.

Heejung An, Elementary & Early Childhood Education

Triada Samaras, College of Education, Simone Sandler, College of Education, Jennifer Post, Don Bosco Technical Academy, Paterson Public Schools, Dina Scacchetti, College of Education, Nancy Norris-Bauer, Department of Professional Development and School/Community Partnerships

Effective Arts Integration Approaches in High Needs School Districts

STEAM education in K-12 settings is still relatively new, with many educators wondering how arts integrated lessons can be effectively woven into rigid high needs school curricula and how art integrated disciplinary lessons can be conducive to students’ learning processes and outcomes, and teachers’ pedagogical practices. This session demonstrates how the Geraldine R. Dodge Art Integration grant and the College of Education’s Professional Development School/Professor in Residence model have effectively deployed arts integration lessons into not only the STEM subjects, but also across other subjects. Additionally, this session shares the challenges of integrating the arts into classrooms in high needs school districts.

Support was provided by the Geraldine R. Dodge Foundation.

Natalie Arcello, Clinical and Neuropsychology Honors Track, Psychology

Sensation Seekers and Offenders

An individual’s desire for varied, complex, novel, and intense stimulation, known as sensation seeking, plays a significant role in determining personality and behavior (Zuckerman, 1994). The goal of this research is to examine high sensation seeking, executive function, and information processing in a sex offender population and determine if there are personality, behavioral and cognitive profiles associated with sociopathy. High sensation seeking (HSS) has been repeatedly associated with risky sexual behavior (Sheer & Welch Cline, 1995) and findings may provide insight into why some individuals seek out more stimulation than others as a function of their biological make-up (Zuckerman, 1994). The hypothesis is that these individuals exhibit personality and cognitive profiles where the propensity to engage in risky or problem behaviors is a function of personality traits that predispose an individual to seek complex and novel experiences (i.e., sensation seeking; Zuckerman, 1979).

Support was provided by the Department of Psychology and the College of Humanities and Social Sciences.
James Arnone, Biology

Adjacent Gene co-Regulation via Genomic Clustering in Transcriptionally Permissive Loci

In single celled organisms, cellular survival depends on proper regulation of the transcriptome to maintain homeostasis. This includes coordinating the cellular response to a changing environment and can involve orchestrating multiple mechanisms simultaneously (e.g. transcription factor – promoter binding, histone positioning and modification alterations, subnuclear organization, etc.). This ultimately results in global transcriptional changes – a classic example is seen in the budding yeast, *Saccharomyces cerevisiae*’s, environmental stress response. One proposed mechanism is the role of ‘adjacent gene co-regulation’, which arises from the functional clustering of genes within a related class to the same genomic site. This has been observed to result in promoter sharing in the genes in the ribosomal rRNA and ribosome biogenesis regulon, however this clustering has been observed in many different gene families. One hypothesis for the mechanism that underlies this phenomena is that of the enhancer-promoter hypothesis, which suggests that functional pairs of genes are clustered into more transcriptionally permissive regions of the genome. To test this hypothesis we initially focused on the genes in the ribosomal protein, nitrogen metabolism, heat shock, and toxin response families, comparing the paired clusters to the unpaired members of this regulon. Gene expression data was analyzed from five stress and nutritional response time-courses, calculating the Spearman’s correlation coefficient within each genomic neighborhood for every member of the set. Our initial analysis demonstrates that this hypothesis is correct – that these pairings appear to be the result of genes clustering into regions that are more permissive to sharing a promoter and represent a layer of gene regulation within many functional classes of genes. Our current work is focused on empirically testing this observation at the DUG2 and BPH1 loci using a series of HIS3 reporter constructs and monitoring gene expression by qRT-PCR within each neighborhood.

Support was provided by the WPU Assigned Release Time for Research Program (ART), Center for Research - College of Science and Health.

Michael Aromando, Performing & Literary Arts Honors Track, Art

Armory and the Magic Bag

From an early age, I was fascinated with the fantastic illustrations found in children’s books that accompanied their universal stories. I always found that my favorite books were the ones with a message that could touch multiple ages while being disguised behind juvenile drawings. It was not until later that I found out that many children’s books deal with mature themes like wanderlust and depression. It was this realization that inspired me to write and illustrate a story that dealt with anxiety in youth. My book Armory and the Magic Bag subtly deals with the effects of anxiety on a young boy.

Bahar Ashnai, Professional Sales Department

Prabakar Kothandaraman, Professional Sales Department, Ki Hee Kim, Marketing & Management Sciences Department

An Investigation of Gender and Ethnicity Biases and Stereotypes in Salespeople Performance Evaluation and Recruitment

Companies have recognized that a diverse workforce nourishes the business and began imparting diversity training and mentoring. They attempt to adopt recruitment strategies to achieve diversity within the organization. However, the success of these efforts depends upon awareness of the subtleties in effect when a recruiter evaluates a job candidate’s performance and hireability. Our study tackles the questions: Does the characteristics of the recruiter - gender, ethnicity and job experience - impact the outcome of skill assessment and intention to hire a candidate? Does matched or unmatched pairs of recruiter-candidate situations - with regard to gender and ethnicity - influence the outcome of skill assessment and hiring intention?

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.
Maridel Asuncion, Nursing Honors Track, Nursing

Hospital-Acquired Anemia and Diagnostic Testing: A Review of the Best Prevention Strategies

Hospital-Acquired Anemia (HAA) has been widely researched over the past few decades. Intensive Care Unit patients are most susceptible to blood loss from diagnostic testing because it provides vital insight on the status of a patient. Unfortunately, it requires the patient to sacrifice his or her own blood for screening. Hospitalized patients often receive various amounts of daily blood tests ordered by consulting physicians that can cause significant effects over time. This systematic review serves to compare the most effective prevention methods and blood management strategies to reduce diagnostic blood loss. The study analyzes approximately 7 primary research articles that discuss the implementation and outcome of blood conserving interventions over the last 17 years. This study will give recognition to the most effective methods that result in both economic and life-saving outcomes; thus, serve as a suggestion for standard diagnostic blood testing guidelines that can be implemented to hospitals world-wide.

Support was provided by the Department of Nursing.

Valeriya Avdeev, Accounting and Law Department

Hannah Wong, Accounting and Law Department,

Ethical Issues for a Business Practitioner - Best Practices and Case Studies

The actions and decisions of a business practitioner today are a lot more transparent and visible than they were ten years ago. A typical day in the life of a business manager includes substantial amount of business reporting, client interactions, advising and statutory compliance. One’s reputation is built on the ability to efficiently manage such heavy reporting requirements and to adequately and timely address client’s issues. Yet, seamless communication and decision-making does not end when a typical business practitioner leaves his or her office. Social media has converted our lives into a continuous stream of interactions that have a great impact on our professions and careers. Our manuscript will provide a detailed approach to ethical business decision making that can be used as a guide to approach even the most intricate and sensitive business issues. It will examine a variety of different case studies that will apply to business practitioners in various fields and markets. The reader will be able to examine and then apply the available guidance and standards to a variety of business issues and case studies to better understand how to respond to everyday ethical dilemmas and to address them effectively despite a heavy work load and an inherent loyalty to one’s client.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Diana Bae, Psychology

Kevin Sales, Psychology, SoYon Rim, Psychology,

Faculty Sponsor: SoYon Rim rims@wpunj.edu

Social Distance and Memory for Pictures vs. Words

Given that our cognitive resources are limited, the memory system is unable to preserve all of the information we come across in minute detail. Rather, some information is preserved in abstract, gist form, which contains only the central aspects of the target event. What factors affect how information is stored in memory? Past research has shown that temporal distance affects whether memory is preserved in gist versus concrete form; memory for details becomes less accessible over time (for a review, see Reyna & Brainerd, 1995). In the present research, we examined whether other forms of psychological distance, specifically social distance, affect abstract versus concrete memory. Our hypothesis was that memory for socially proximal (versus distal) objects will be superior when the objects are presented concretely (versus abstractly). We used pictures and words as manifestations of concrete and abstract representations, respectively, since a main way in which pictures and words differ is in their degree of abstractness (Amit, Algom, Trope, & Liberman, 2009; Paivio, 1971, 1986). We
predicted that people would have better memory for socially proximal (vs. distal) items presented as pictures (vs. words).

Sambhu Basu, Economics, Finance and Global Business Department

Kenneth Farrell, Vice President, Provident Bank

Credit Analysis and Management In Middle Market Commercial Banking: Case Studies

Our presentation focuses on the use of practical, real world case studies in teaching commercial credit analysis and management in the newly created track in Finance at William Paterson University, Credit analysis and Commercial Bank Management”. The material comes from two actual credit cases Provident Bank was involved with, each with a slightly different operational and managerial focus. The cases go into actual details of the financial situation, key decision variables, and risk and return issues. They also discuss organizational and managerial issues surrounding credit processes in middle market financial institutions in New Jersey and elsewhere.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Judy Bernstein, Languages and Cultures

Stigmatized Englishes (LANG 3010) and Structure of Language (LANG 3050) Posters

Undergraduate students enrolled in upper-level linguistics courses are developing posters related to grammar and syntax (LANG 3050) and stigmatized varieties of English (LANG 3010).

LANG 3010 - Stigmatized Englishes

Why are languages and dialects stigmatized? Who are the speakers of stigmatized varieties? What are the features, rules, and patterns of these varieties? While these questions can be addressed on a macro scale, the students enrolled in LANG 3010 are going micro: Posters will address these issues focusing exclusively on English, but not the mainstream variety promoted in school. These posters will explore the maligned Englishes, varieties such as Chicano English, Singlish, African American English, and Jamaican English.

Students: Brian Acosta, Jennell Martin, Daniela Mejia, Kevin McKiernan, Grace Moreyra, Brenda Paez, Ulises Prudencio, Arlene Siri, Kaitlyn Stoerger, Sara Zammit

LANG 3050 - Structure of Language

How does English work? What about Mandarin Chinese? We can list the rules of individual languages, as grammar guides do. But surely we can do better than that and dig deeper to unmask truly interesting patterns that emerge only through doing deeper and more fine-grained analysis. Students enrolled in LANG 3050 will analyze seemingly mundane but actually surprisingly patterns in European languages like Spanish and Italian, Asian languages like Korean and Mandarin, non-spoken languages like American Sign Language, and dead languages like Latin.

Students: Brian Acosta, Benjamin Berth, Lourdes Chami Hajir, Angela Cheung, Danbi Kim, Miranda Labbree, Rachel Squiccirari, Kaitlyn Stoerger, Maribel Suarez

C'Shae Bess-Perez, Performing & Literary Arts Honors Track, Communication

Just another 20-Something Drama Queen

The 20’s are arguably the most difficult time in anyone’s life to navigate through. You’re either born knowing exactly what to do and putting yourself on an arbitrary time frame to achieve your dreams, or you’re comparing yourself to someone who knows exactly what dream they’re working towards and feeling inferior because you’re still lost on your journey. Either way, the 20’s are a time of confusion, depression, stress, and a lot of
Stephen Betts, Marketing & Management Sciences Department

Robert Laud, Marketing & Management Sciences Department, Andrey Kretinin, Marketing & Management Sciences Department

Social Entrepreneurship: A Contemporary Approach to Solving Social Problems

Social entrepreneurship is an emerging alternative to governmental and non-profit approaches to social problems. Social entrepreneurs look at the ‘triple bottom line’ of people, planet and profit. They aim to achieve both a return on investment and a return to society, and address social problems effectively where others have not. In this paper we review the current literature on social entrepreneurship and attempt to clarify the key concepts and dynamics. We propose a model of social entrepreneurship, provide suggestions for practice and present a research agenda for scholars.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Ksawery Biskup, Environmental Science

Austin Degan, Environmental Science, Michael Griffiths, Environmental Science,

Faculty Sponsor: Michael Griffiths

Environmental Evaluation of Mid-Atlantic Coastal Wetlands from Paired Geochemical and Diatom Analysis of Sediments

Industrial and urban pollutants have been changing the ecosystems on which many organisms depend. This study focuses on the effects modern anthropogenic activities have had on mid-Atlantic coastal wetlands. Pollution and other environmental factors that alter an ecological system are readily preserved in the water and sediments, along with the organisms that inhabit the wetland. For example, diatoms are microscopic siliceous algae widely used as indicators of environmental conditions in aquatic ecosystems. Because of their high ecological sensitivity and silica shell that gets preserved and accumulates in bottom sediments, they are one of the most valuable tools to infer past environmental conditions from core sediments in both lacustrine and coastal environments. However, whilst some work has been done to develop diatom transfer functions in mid-Atlantic estuaries and marshes—namely, relating diatom species to ecological conditions—we still lack a robust understanding of how the abundances of the different species vary within the ecosystems. What’s more, there are still uncertainties in the transfer functions themselves, which calls for additional geochemical tracers to help constrain these relationships. Therefore, to help reduce these uncertainties we have analyzed the diatom assemblages from seven spatially distributed locations in New Jersey coastal wetlands which extend from Raritan Bay to the north, to Cape May to the south. To better assess the link between diatoms and ecological conditions, we also examined total phosphorus, nitrogen, and carbon, along with mineral grain size in the various locales across the NJ shoreline. Results from this study will not only improve the diatom transfer functions, but also allow us to trace the diatom composition over time and identify reference assemblages that existed in the Bay over the past few centuries. Such data are not only important for understanding how the structure and function of biological communities is changing as a result of human impacts, but are also useful for establishing biological indicators of ecosystem health.

Support was provided by the New Jersey Department of Environmental Protection.
Kimberly Boyle, Cognitive Science Honors Track, Psychology

*Cognitive Ability of Students and Student Athletes*

Student athletes make up a large population of colleges all across America, but does being known as a student athlete create problems when paired with their academics? This study set out to find if the negative statements towards being a student athlete has an impact on these students' ability to perform on academic examinations, specifically mathematics. Data was collected through an online survey for this study. Participants received credits towards a class for completing the survey. The participants answered demographic questions about their history with sports and education. The survey was composed of three mathematical equations, then a negative statement proclaiming the overall ignorance of athletes on mathematical examinations, followed by three more mathematical equations. The initial findings show that there is no significant proof that student athletes at William Paterson University are susceptible to these stereotype threats.

Christine Bravo, Office of Sponsored Programs

*Updates and Strategies for Submitting Proposals to the National Science Foundation (NSF)*

Everyone who may be interested in applying for National Science Foundation (NSF) funding is welcome to join this session that will review recent updates and requirements for proposals. The discussion will be guided by video clips on best practices for proposal development, featuring Jean Feldman, Head of the NSF’s Policy Office -- and a very entertaining speaker. This program will also include updates on the NSF’s efforts to modernize proposal submission.

Hannah Breckenridge, Music Honors Track, Music

*Charlotte Mason: Applying Her Philosophies to the Modern Music Classroom*

A growing movement in education is based on the principles and writings of twentieth-century educator Charlotte Mason. Her philosophies emphasized the personhood of the child, the importance of an expansive curriculum, and what she calls the science of relations. One important aspect of this education has to do with the arts, particularly the study and practice of music. Mason corresponded with well-known music philosophers Zoltán Kodály and John Curwen to discuss the importance of music in education. My presentation will be the culmination of research that is both theoretical and practical. One facet will be focused on the research done into Mason’s writings regarding music education. The other will be applied to the discussion of the functional aspect of these philosophies as they have been and continue to be used by educators in charter and private schools, and to see where they can intersect with the public classroom.

Kelley Breheny, Social Sciences Honors Track, Communication Disorders

*Insurance Coverage of Eating Disorders*

Eating disorders are serious mental disorders that are often associated with physical complications, which can result in a reduced quality of life and even death. Despite evidence of positive outcomes associated with different eating disorder treatment options, many insurance companies place restrictions on coverage for mental health disorders. These restrictions include lower caps or limitations on the amount of days of treatment they will cover. There is a shortage of studies that look at the effect of insurance coverage on successful eating disorder treatment. This study examines the reasons insurance companies deny coverage for eating disorder treatment. The goal is to determine whether insurance companies are denying coverage for ED treatment because of their strict financial restriction on mental health disorders despite medical recommendations.
Nejesea Brown, Performing & Literary Arts Honors Track, Art

*Comic Strip Art*

Even though you will not see much of them in museums, comic books and comic strips are still a part of art history. As a tribute to Sunday comic strips, something that did spark my interest in art as a child, I constructed over 100 comic strips for my Honors thesis. I called them Illustration Strips because not all of them necessarily tell a story, but more so convey a series of actions. This was my method of making comic strips and making it into something that I can call my own. Throughout each strip, I tried to focus on different themes constantly portrayed during my college career. Stress was a very recurring theme and is therefore depicted the most. These illustrations were geared towards young adults/college students. That’s why themes vary from simple to complex.

Jeremiah Bueno, Nursing Honors Track, Nursing

*How Attitudes and Beliefs of Undergraduate Nursing Students Influences Smoking Status and Cessation Practice: A Qualitative Study*

Most students in health care fields have been made aware through formal or informal education about the risks associated with the use of tobacco products. Despite their knowledge, many students in health sciences continue to smoke during and after their schooling. The Health Promotion Model (HPM), states that individuals have unique personal characteristics and experiences that affect their actions. It is possible that a variety of personal experiences and stressors can affect an individual’s desire to begin smoking or discontinue such practices. As nurses, it is important to examine how the attitudes and beliefs of undergraduate nursing students influence their smoking status and smoking cessation efforts to promote optimal health outcomes. Through semi-structured interviews, data was collected from 14 undergraduate nursing students who are currently smokers at a university in the Northeast region of the United States. This research study focuses on understanding how the attitudes and beliefs of undergraduate nursing students influence their smoking status and smoking cessation efforts.

Nancy Bzadough, Clinical and Neuropsychology Honors Track, Psychology

*The Neuroeconomics of Autism: A Translational Study*

Inbred mouse strains play a critical role as models in psychological testing. Symptoms of human conditions can be replicated in mice due to their closely resembled biological, behavioral, and genetic characteristics. In previous studies, humans with Autism Spectrum Disorder (ASD) and mice with symptoms of ASD show similar difficulties in cognition, yet these studies have not tested the validity of the mouse strain as a model for ASD. The present study employed reversal learning tasks using magnitude, probability, and delay of reward, comparing the results of autistic model mice and the human participants with ASD. The results are expected to confirm the use of the BTBR mouse strain as a model for ASD which will lead into future studies for possible treatments for the symptoms of ASD.

Support was provided by the Department of Psychology and the College of Humanities and Social Sciences.

Francis Cai, Economics, Finance & Global Business

Ge Zhang, Economics, Finance & Global Business, and LianZan Xu, Accounting & Law

*Institutional Trading and Stock Pinning*

This paper investigates the impact of institutional trading activity on stock pinning effect for both monthly and weekly equity options. We show that stock pinning remains pervasive on the expiration days and the effect is stronger with higher concentrated firm proprietary trading. We explore and find evidence that hedge
rebalancing and manipulation by firm traders are possible causes for stock pinning on option expiration days. The higher the fraction of firm trading, the significance the clustering effect is.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Adeline Camacho, Cognitive Science Honors Track, Mathematics

*Subjective Socioeconomic Status and Moral Judgement and Reasoning*

Previous research has suggested that social factors such as religiosity and politicism influence an individual's decision when presented with moral dilemmas. In this study, we look to see if personal perceptions of social class play a role in decision making. Taken from previous research, the standard trolley problem and footbridge dilemma were presented to participants; however, we manipulated the dilemmas by specifying the social status of the victims and, in some cases, the perpetrator. We did this to test if social class of victims or perpetrators also influences the participant's moral decision. Participants were presented with 8 moral dilemmas, 6 low-conflict dilemmas and 2 high-conflict dilemmas. Low-conflict dilemmas ask participants to indirectly harm others and high-conflict dilemmas ask participants to directly harm others. We test the idea that individuals with high socioeconomic status are more likely to take a utilitarian approach in both low and high conflict dilemmas. Meanwhile, low socioeconomic individuals are more likely to take the utilitarian approach in mainly low conflict dilemmas but not in high conflict dilemmas.

Steven Caporale, Music Honors Track, Music

*An Analysis of Woody Shaw's Compositions and Improvisations*

Woody Shaw was an African-American jazz trumpeter from Newark, NJ. During his career, he worked in the bands of Horace Silver, Eric Dolphy, and Art Blakey, as well as bands led under his own name. It is appropriate to think of Shaw as a culmination of the jazz trumpet tradition preceding his contribution, as well as the final catalyst for the modern approach developed by the next generation of players. His improvisation style was representative of traditional jazz/bebop vocabulary as well as a more angular style of linear development informed by interval structures. This work will attempt to assign an academic analysis to the mastery of his compositions and improvisations.

Caylynn Carls, Psychology

Jamie Dubinski, Psychology

*Youth Concussions in American Football: What We Know and What We Need to Know*

This study investigates the incidence of childhood concussion as a result of football by using data visualization techniques. By using graphs, the authors extrapolate to known causes, and determine what needs to be done to educate on the risks and outcomes of concussions during childhood. Education will help the population better understand the effects concussions can have on the development of a child and the consequences later in life. The authors also demonstrate that the public perception that football alone is to blame for childhood concussion is a misunderstanding of the state of play.

Current research demonstrates the increasing number of childhood concussions in various organized sports. Girls’ soccer, boys’ wrestling, and girls’ basketball have a risk of concussions as well as football (Marar et al., 2012). In 2014, 67% of concussions reported to a regional emergency department were sports related (Hwang et al., 2014). The majority of those concussions reported were from soccer injuries (Figure 2). Kontos and colleagues (2013) used athletic exposures to calculate the incidence rate of concussions in 8-12-year-old males. This study shows that the incidence rate during practice is 0.24 per 1000 athletic exposures and during games it is 6.16 per 1000 athletic exposures (Figure 3). Athletic exposure is defined as one athlete participating in one practice or game where there is the possibility of sustaining an athletic injury.
The researchers conducting this study found that childhood concussions in various sports are increasing but, football players receive the most head traumas. The use of athletic exposure to represent a set of data was found to be an inaccurate measure. This measure changes with the number of players on a team and the amount of time spent in a practice or a game. Since this means the construct fluctuates, reliable measurements are difficult.

![Graph of high school sports with the highest concussion rates.](image1)

**Figure 1:** Graph of high school sports with the highest concussion rates.

![Graph of pediatric concussions in a regional emergency department.](image2)

**Figure 2:** Graph of pediatric concussions in a regional emergency department.

![Graph of incidence rates of concussions in 8-12 year old males.](image3)

**Figure 3:** Graph of incidence rates of concussions in 8-12 year old males.

**Alex Chambers, Special Education and Counseling**

*Latino Male College Students with Learning Disabilities and Requesting Accommodations*

While the number of students with learning disabilities entering the postsecondary environment is rising, many of these students have not yet acquired the skills to help them request necessary academic accommodations. Students with learning disabilities need to recognize how their disability affects their academic learning, and need to have the strategies and skills known as self-advocacy, so that they can request and obtain these accommodations. Unfortunately, many students with learning disabilities, particularly Latino students, have not been given the opportunity to acquire self-advocacy skills prior to entering the postsecondary education setting. Without self-advocacy skills, these students are left unaware of how to request the support they need in order to be successful, or explain their disability to validate the need for such supports. The purpose of this study was to examine the effects of a self-advocacy intervention on Latino male college students’ abilities to request academic accommodations. Findings demonstrated a functional relationship between the self-advocacy intervention and students’ abilities to request academic accommodations in a role-play situation. In addition, all students were able to fully generalize the target behaviors to the real life setting as well. Last, data obtained from social validity surveys revealed the significance of the effects of the intervention on the dependent variables.

**Ben Chianchiano, Kinesiology**

Jason Wicke, Kinesiology, Kristen Bowe, Kinesiology, Sara Garner, Kinesiology

*Comparing Electromuscularstimulation as a Warm-up Technique vs. Traditional Dynamic Warm-ups and its Influence on Athletic Performance.*

Background: The purpose of this study is to examine the effects of electro-muscular stimulation during warm up on lower body functional performance.

Methods: A total of N=30 college age participants (n=20 male, n=10 female) completed both a general warm-up, either an EMS warm-up (207 sec) or a dynamic warm-up (avg. 218 sec). The participants were then asked to perform three trials each of standing long jump, 20m sprint, and 18.3 m (20 yard) shuttle run. Each participant was asked to return one week later and to perform the warm-up procedure that they had not performed the week before. The results of each trial were recorded and averaged for each participant.

Results: Intra-class correlation coefficients for the three dependent measures for each intervention ranged from 0.87 to 0.99, indicating overall excellent reliability within each measure. There was no significant difference between either of the warm-up procedures and the SLJ, 20m sprint, or 20-yard shuttle run. t(29)=0.36, p=0.72, t (29)=.88, p=.39, p(29)=.97, p=.34, respectively.
Discussion: While there was not significant difference found in any of the trials between the interventions. There was a large interpersonal difference found. This difference could demonstrate that EMS could be beneficial for some athletes, while some may find dynamic warm-up more effective. Practical Application: Athletes and coaches could use the information in this research to help develop an optimal warm-up for an athlete. This research could also benefit an athlete who may be unable to complete a dynamic warm-up due to an injury.

Support was provided by the Department of Kinesiology, College of Science and Health.

Megan Conrad, Psychology
Govinda Mota, Psychology

Does anthropomorphism decrease children’s learning about zoo animals?

A number of previous studies have explored the effect of anthropomorphism on children’s learning about real animals. Some of these findings suggest that anthropomorphism decreases factual learning and increases anthropocentric reasoning. While anthropomorphism is frequently found in naturalistic parent-child conversations, little previous research has explored the causal effects of such conversation on children’s learning about real animals. In the current study, we experimentally investigated children’s factual learning about real animals from anthropomorphic information at a monkey exhibit at a local zoo. Twenty-six 5- and 6-year-old children were recruited at the spider monkey exhibit at a local zoo. Children were randomly assigned to receive either realistic or anthropomorphic factual information about the monkeys. Children’s factual memory as well as anthropomorphic beliefs about spider monkeys were then measured. Overall, we found that anthropomorphic language was just as beneficial for learning as factual language (all p &gt; .30). Furthermore, children were not more likely to anthropomorphize monkeys in the anthropomorphic condition (t(24) = .245, p = .809). In addition, individual differences in anthropomorphism of animals were not predictive of memory scores in the anthropomorphic condition (all p’s &gt; .288). Our results provide important information about how to support learning about live animals. Our results add to a growing body of work that finds that anthropomorphic language can be used without harming factual learning. Given other research suggesting the benefits of anthropomorphism for conservation (Tam, et al., 2013) it may in fact be beneficial for zoos to describe animals anthropomorphically.

Megan Conrad, Psychology

Emily Kim, Rutgers University, Katy-Ann Blacker, Rutgers University, Zachary Walden, Rutgers University, Vanessa LoBue, Rutgers University,

Learning about contagion: Using storybooks to encourage children’s behavioral avoidance of illness

There is a large and growing literature on children’s developing concepts of illness and contagion. However, this work often focuses on how learning about germs impacts causal knowledge. Significantly less is known about children’s everyday experiences with germs and how these experiences affect children’s knowledge revision and subsequent behavior. Here we asked: What kinds of information about illness and contagion are children being presented with on a daily basis, and what is the impact of this type of exposure on children’s developing biological knowledge and behavior? In Study 1, we examined whether existing children’s books about illness present contagion-relevant causal information. In Studies 2 and 2b, we created books that present contagion-relevant and contagion-irrelevant explanations to examine how they impact children’s behavioral avoidance of contaminated objects. The results of our first study suggest that very few (15%) children’s books about illness feature biological causal mechanisms for illness transmission. However, results from our second study suggest that books containing contagion-relevant explanations can act as an important tool for encouraging children’s avoidance of contaminated objects. Altogether, these results have important theoretical and practical implications for engaging children in learning about contagion and encouraging behavioral avoidance of contaminated objects.

Support was provided by the College of Humanities and Social Sciences Faculty Research Assistance Program.
Trevor Courtright, Biology Honors Track, Biology

*Phenology of Honeybee Colonies and their Key Pollen Plants in the Urbanized New Jersey Landscape*

Honeybees can be used as bioindicators of landscape health as their success is dependent upon the quality of their environment. Honeybees’ role in pollination in both natural and agricultural environments is critical for successful management; understanding bee health and foraging with relation to the phenology (cyclical patterns) of important plants is imperative. Four colonies from the rooftop apiary of WPUNJ were utilized in this study. Colonies were fitted with traps for pollen collection and Broodminder scales to track colony colony growth. Identification of major pollen sources paired with colony data provides insight as to which species are important throughout the foraging season. Honeybees utilized 17 species but were reliant upon just two for half of their pollen needs, and another four species for an additional 35% percent. Colony growth was constant up until 5 July, supported by Rhus typhina (staghorn sumac), thereafter growth plateaued and colonies were sustained by Lythrum salicaria (purple loosestrife) and others.

Steven Crammer, Music Honors Track, Music

*The Art of Tabla Solo: A Guided Performance*

This performance/presentation is an attempt to perform a compiled tabla solo of classic Northern Indian repertoire while also guiding the audience to a basic understanding of the instrument and the solo’s construction. The tabla is the main accompanying instrument in Hindustani classical music but also has a rich history of solo performance. Tabla solo performance is a challenging and extremely esoteric art form that has often had difficulty reaching Western audiences but, with a little guidance, many doors to understanding it can be opened. Learning tabla is done almost entirely in the oral/aural tradition, but a component of this project has been to compile and “notate” these oral compositions for presentation in a way that is decipherable by Western audiences. This project is the culmination of a two year intensive study of North Indian classical percussion.

Yuliana Cruz Herrera, Biology Honors Track, Biology

*Characterization of Diadinoxanthin De-epoxidase Enzyme in Karenia brevis*

Karenia brevis is the dinoflagellate that produces brevetoxins and forms harmful algal blooms in the Gulf of Mexico. Brevetoxins have a suggested role in non-photocchemical quenching (NPQ), a photoprotective mechanism regulated by the xanthophyll cycle. The xanthophyll cycle involves the conversion between carotenoids via the enzyme diadinoxanthin de-epoxidase (DDE), and a recent study has shown that the xanthophyll cycle is not functioning properly in a non-toxic K. brevis strain (NT-KB). Two DDE candidates have been identified in the transcriptome of the toxic strain. The goal of this project is to further characterize DDE in K. brevis, determine if there is a mutation in the gene coding for DDE in NT-KB, and analyze how this gene may be expressed in toxic and NT-KB strains experimentally exposed to light stress. Characterization of DDE in both strains will provide additional evidence for the functional role of brevetoxins in K. brevis in NPQ.

Carley D’Auria, Humanities Honors Track, English

*Is Bad Representation Better than No Representation?*

Heteronormativity and homophobia have severe negative effects on LGBTQ+ individuals, but is inescapable on television. Most popular television shows from the past and in the present do not portray LGBTQ+ characters fairly. In many cases, LGBTQ+ characters become an ongoing joke in the series. My research demonstrates the differences between television shows that the LGBTQ+ community considers themselves well-represented in versus shows where they are poorly-represented. Many of the problems with representation include: erasure of one side of the bisexual identity; killing lesbian or other queer characters; lack of ethnically diverse LGBTQ+ characters; and other problems. When asked, members of the LGBTQ+ community would prefer poorly-written LGBTQ+ characters over having no LGBTQ+ characters at all, and my research concludes by identifying specific improvements television shows should make to fully represent the diversity of the LGBTQ+ community.
Beth Davidoff, Communication Disorders & Sciences

Maternal Language Input to Beginning Communicators with Autism Spectrum Disorder: What Mothers Talk About

This descriptive group design study is a follow-up to a pilot study that sought to further understand maternal language input to beginning communicators with autism spectrum disorders (ASD) who were at three early phases of spoken language development. Six mothers and their children, aged two to six years, participated in the pilot study; seven additional dyads participated in the present study. Children were diagnosed with autism spectrum disorder (ASD) and had an expressive vocabulary consisting of 0 – 62 words (spoken, signed, expressed with photos, pictures, or written words) in a 20-minute language sample. Mothers were primary caregivers and spoke English as their primary language. Mothers used a digital audio recorder to record their daily interactions with their children at home during natural routines and activities for one 2- to 3-hour period. Audio recordings were transcribed and one hour of maternal utterances to the children was coded for qualitative measures of maternal language input. Dependent variables included: semantic roles within utterances and the types of utterances expressed by mothers. Pilot results indicated that the mothers talked about a variety of semantic roles using different utterance types. The data of the present study will add to the results of the pilot study and will allow for comparisons between mothers of children at three different phases of spoken language development. Clinical implications and directions for future research will be discussed.

Support was provided by the Center for Research - College of Science and Health.

Rita De Almeida, Biology Honors Track, Environmental Science

The Effects of Nitrogen Limitation on the Dinoflagellate Karenia brevis

Karenia brevis is a toxic dinoflagellate that forms harmful algae blooms in the Gulf of Mexico. Its production of brevetoxins causes respiratory illness and shellfish poisoning in humans and causes death of marine life. In nitrogen-limited environments, K. brevis has been shown to have a decrease in growth rate and an increase in the production of brevetoxins. While the study of nitrogen limitation on toxic strains of K. brevis has been done by Hardison and colleagues (2012), the effects of N-limitation on gene expression and the effects on the nontoxic strain remain unknown. My research focuses on analyzing the effect of N-limitation on growth, toxicity and PKS protein abundance on both toxic and nontoxic strains of the dinoflagellate, K. brevis. Four replicates of control and N-limited treatments were monitored for growth and photosynthetic efficiency every other day for the entire experiment. At mid-log phase, four replicate cultures of each treatment were sampled for brevetoxin and protein analysis. This study increases our understanding of environmental factors that affect toxicity at the cellular and molecular levels.

Megan Deschaine, Biology Honors Track, Biology

Testing the Enhancer-Promoter Sharing Model as a Mechanism Underlying Adjacent Gene Co-Regulation in Budding Yeast

Regulation of the eukaryotic genome is still in the early stages of being universally understood. Pairing and adjacent genes have been studied, but there is little data that demonstrates the effects of spatial regulation on expression. I hypothesize that enhancer-promoter sharing is a characteristic of gene regulation in the yeast S. cerevisiae, potentially underlying adjacent gene co-regulation. This study is unique because it will investigate expression of genes as intergenic distances increase. This study aims to test if there is a correlation in regulation of neighboring genes when intergenic space increases between Upstream Activating Sequences and specific target genes. The experiment will test my hypothesis by quantifying the relationship between the amount of intergenic distance in an enhancer-reporter complex and the strength of transcription from a mutant gene. Understanding the direct relationships between gene distancing and the effects on expression in yeast will allow scientists to further attempt to understand how higher eukaryotes, including humans, organize and regulate their genomes.
Racine Emmons, Kinesiology  
Michael Figueroa, Kinesiology, Toni LaSala, Kinesiology  

Postprandial Lipemic Responses after a High-Fat Meal and Low- or High-Intensity Interval Exercise

PURPOSE: To compare the effect of exercise intensity on postprandial lipemic responses after a high fat meal.

METHODS: 13 adults (9 male, 4 female) participated; there were no differences between genders among age (mean: 24±2 years) or height (mean: 1.71±0.06 meters). Males weighed heavier than females (78.9±11.2 kg vs. 65.3±2.1 kg, p = 0.04). In a randomized crossover design, participants returned on two separate occasions where they consumed a high-fat milkshake, delivering 1.3 g/kg bodyweight of fat. Participants performed either low intensity exercise (LE) on a treadmill at a heart rate (HR) of 40-60% of heart rate reserve (HRR) for 30 minutes or HIIT exercise (HE) of 8 x 30 second sprints with 90 seconds active rest. Blood was sampled for TG at baseline (T0), 1 hour (1H), 3 hours (3H), and 5 hours (5H). Area under the curve (AUC) determined the TG response via the trapezoid method. Comparisons among TG at each time point and AUC were determined via paired samples t-tests. Significance was set at p<0.05.

RESULTS: No differences were found among baseline, 1H, or 3H TG between the exercise conditions. 5H TG and AUC were lower in LE compared to HE (5H: 149.54 ± 113.18 mg/dL vs. 195.85 ± 117.14 mg/dL, respectively, t(13)= -3.384, p=0.005, d=0.402; AUC: 430.39 ± 269.64 mg/dL vs. 508.12 ± 256.97 mg/dL, respectively, t(13)= -2.212, p=0.04,d=0.295).

CONCLUSION: LE resulted in lower postprandial lipemic responses compared to HE. The relatively short HE session may have not been sufficient in duration to clear postprandial TG.

Catherine Esguerra, Independent Honors Track, Nursing

The Virtual Echo Chamber: The Effect of Social Media Usage on Political Polarization

The role of social media influencing everyday life has drastically grown in recent years. Moreover, the role of social media in the dissemination of political news, as opposed to the dissemination of news solely related to entertainment, has become increasingly significant. Past research has shown that social media exposes individuals to politics and even if they are not politically active initially, social media usage fosters increased political interest over time. Furthermore, past research has also shown that the content which individuals are exposed to on social media sites (SMS) affects political polarization. Through an unmanipulated online survey, this study examines whether increased social media usage has substantial effects on the polarization of political attitudes among university students who regularly use SMS such as Facebook, Twitter, Instagram, Reddit, and Snapchat in both active and passive use. Initial results that increased social media usage is associated with an increased polarization of political attitudes.

Samuel Fancera, Educational Leadership and Professional Studies

School Climate and Academic Performance in New Jersey

Annually, the New Jersey Department of Education (NJDOE) requires public school leaders to submit various data for inclusion in its publicly available school performance reports. Among these data are several school level variables the NJDOE categorizes as measures of school climate. There is support in the school climate literature for school leaders to prioritize improving school climate, because a positive school climate can mitigate the influence of SES on academic achievement and positively influence other educational outcomes (Berkowitz et. al., 2016; Davis & Warner, 2015; Hopson, Schiller, & Lawson, 2014; Sulak, 2016; Thapa et. al., 2013; Weng & Degol, 2016). Therefore, I found it worthwhile to examine whether the NJDOE identified measures of school climate are related with and predict academic performance. The purpose of this study was to examine the relationships between six different measures of school climate the NJDOE included in the 2015-2016 school performance report and median school growth in math and ELA, and to assess the predictive value of these six different measures of school climate on median school growth. The school served as the unit of analysis for this
correlational study. I collected and analyzed data from the 2015-2016 school performance report for 1,618 schools that met the inclusion criteria I established for this inquiry. Results indicate the NJDOE defined measures of school climate are weakly related with and do not predict academic performance. The significance of this work is that it can help guide policymakers in the NJDOE to revisit how they publicly report school climate.

Support was provided by the WPU Assigned Release Time for Research Program (ART).

Laura Fattal, Elementary and Early Childhood Education

Sandra Alon, Educational Leadership and Professional Studies, Arielle Testa, Elementary and Early Childhood Education

Global Education understood through Interdisciplinary Experiential Teaching and Learning

The Fulbright-Hays study abroad program in Israel summer 2017 focused on facilitating interdisciplinary /area studies instruction for cultural competence for six preservice and six classroom teachers. These teachers developed language acquisition skills for bilingual learners, utilized innovative technology in inclusive classrooms and constructed conflict resolution strategies through communicative aesthetics. This session of four panelists, the two co-directors and two participants in the study abroad will share insights in building an understanding of global education from the month-long experiential learning. Visual and textual information in the form of a blog with photos and text and an in-depth website detailing the overseas experience includes participants’ interdisciplinary lesson plans and outreach in their home schools evidence of turn-key activities. The panelists’ diverse perspectives will further discussion on aspects of interdisciplinary experiential teaching and learning in global education.

Support was provided by the Fulbright-Hays Group Study Abroad, part of US State Dept. of Education.

Charles Faulkner, Psychology

Faculty Sponsor: Thomas Heinzen

Football Archival Study

This review of PsycINFO hypothesized an increase in references related to football and concussions. We organized AllTXT key words about concussions by year; we did not distinguish between types of football such as American football, soccer, and rugby. There were 63 hits between 1943 and 2008 (65 years) and 292 hits between 2009 and 2017 (8 years). Our initial review of this literature suggests several relevant variables such as speed of play, level of play, and player position. There are several explanations for this increased concern about football concussions among psychologists.

Jan Feigenbaum, Performing & Literary Arts Honors Track, English

Double Identity: The First Book in the Blood Brothers Trilogy

Reading is fundamental in brightening and broadening a person’s life; it provides a soothing layer of enrichment which allows the reader to escape from the constraints and frustrations of every-day-life. Reading has always been my salvation and I’ve drawn strength from the worlds and characters which were created by the brilliant minds of people who were not afraid to follow their dreams—no matter how many rejections they received along the way. The book I’ve written, Double Identity, is the first in The Blood Brothers trilogy and is a story about six strong characters—Claudia, Colin, Mandy, James, Cindy, and T.J.—who need to find a way to work together to save the life of Claudia’s father. This book is not only a story of love, an exciting quest, and the pitfalls these six run into along the way; this novel explores key characteristics of the human condition, such as emotionality, aspiration, growth, conflict and morality.
Rachel Felton, Nursing Honors Track, Nursing

The Attitudes of Nursing Students Toward Individuals With Substance Misuse Disorder

Substance misuse disorder is an increasingly widespread issue that has personal, communal, and systemic implications. The misusing population is usually received by the general public with negative connotations and preconceived notions about their personal characteristics and attributes. In the nursing profession, these poor perceptions and stereotypes can interfere with the treatment that the individual with substance misuse disorder is receiving, resulting in compromised care. This research project aimed to explore the attitudes of nursing students toward individuals with substance misuse disorder. Using questions guided by the Substance Abuse Attitude Survey and a study conducted by McLaughlin et al (2006), semi-structured interviews were conducted with nursing students at a university in the northeast United States in order to explore attitudes and beliefs. A thematic analysis was then utilized in order to identify common themes, and these themes then became categories for further analysis.

Matt Finn, Art

Advanced Typography (ARTS 3520)

The Office of Sponsored Programs and the Research and Scholarship Council thank all the students in this course for their creative contributions to Explorations 2018: Tania Boghossian, Michele Ciz, Emily Gerais, Julianna Ginefra, Nicole Hilgemberg, Lindsey Lauro, Phuong Le, John McElrone, Kevin Mirski, Cassandra Petrica, Nicole Rodriguez, and Chase Simmons

Jonathan Foley, Chemistry

Noor Eldabagh, Biology, Matt Micek, Chemistry,

Resonance Energy Transfer Mediated by Composite Nanostructures

Light-initiated energy transfer mediated by nanostructures has attracted considerable attention as a paradigm for photocatalysis and solar energy conversion, and the use of noble metal nanoparticles that support localized surface plasmon resonances has been widely explored as a medium for realizing this paradigm. It was recently shown that composite nanoparticles (CNPs) that enable the interplay between dielectric scattering resonances and broad-band absorption in small metal nanostructures, a phenomenon termed scattering mediated absorption, can be used to mediate energy transfer to small molecule adsorbates, thereby enabling selective photochemistry with low-intensity light while completely circumventing plasmon resonance. We show that RET can be facilitated by these CNPs. In particular, the ability to design RET donors with (a) lifetimes far exceeding typical LSPR lifetimes and (b) multiple resonance frequencies offers several advantages not realized with plasmonic nanoparticles; one in particular is the ability to realize cascading up-hill energy transfer.

Support was provided by the WPU Assigned Research Time Program (ART), Center for Research - College of Science and Health, Student Research Fund of the College of Science and Health, and U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences User.

Carol Frierson-Campbell, Music

A Place for Musicking in Palestine: Stories from the West Bank and East Jerusalem

What is it like for Palestinians in the West Bank and East Jerusalem to teach and learn music? How does this experience interact with other aspects of Palestinian life? In this presentation I explore interpretations of these questions as expressed through stories gathered during a 5-month residency at the Palestine National Music Conservatory.

Data are primarily from semi-structured interviews, which began and ended with requests: first for participants’ “musical story,” and later for a story that brought together ideas that emerged in the interview. I also asked
about involvement at the Conservatory and its role in the community. Data were analyzed thematically, using "constant comparative" procedures (Glaser and Strauss, 1967). The stories detailed herein were chosen because they intersected with two important themes: Becoming a Musician and Being Palestinian.

Following Said’s (1979) device of strategic location, I begin by locating myself "vis-à-vis the Orient" (p. 20). Next, I share and compare stories gathered from teachers and/or students from the Palestine National Music Conservatory. I conclude by noting, per Small (1998), Certeau (1984) and Lefebvre (1991), that acknowledging relationships with the places where music happens is as important for understanding interpretations of musical experiences as the relationship with the music itself.

Support was provided by the Assigned Release Time for Research (ART) and the College of Arts and Communication Faculty Research Assistance Program.

**David Fuentes, Elementary and Early Childhood**

Melissa Margaritis, The SET academy at Kennedy High School

*Paterson Unearthed: Local PDS Students Cultivate Place-Based Stories About Home*

“Paterson Unearthed” is a collection of images shot across the city in an attempt to redefine the identity of Paterson by cultivating and sharing what the majority of Paterson students experience on a day-to-day basis – a normal home life. Thought up through dialogues and readings in the WP/SET dual enrollment Foundations of Multicultural Education course, this project is a response to the media’s singular portrayal of Paterson as a place consumed by violence, poverty, drugs. As students and teachers who lived and worked in Paterson, we believe our understanding of place to better represent the city we call home.

Support was provided by the WPU Assigned Release Time for Research Program (ART).

**Miranda Galambos, Social Sciences Honors Track, History**

*The Effects of Resilience and Posttraumatic Growth on Children*

Survey data from the National Children’s Alliance (2015) suggests that approximately 700,000 children are abused each year in the United States. Research has often focused on negative consequences of exposure to severe abuse and maltreatment including increased risk for mental health and academic problems (Delaney-Black et al., 2002; Daignault & Hébert 2009; Fergusson, Boden & Horwood, 2008). However, there is a growing body of work indicating that children can cope and even thrive in the face of trauma by displaying phenomena known as resilience and posttraumatic growth. Synthesizing findings from psychological and educational literature, this thesis provides an overview of the literature on resilience and posttraumatic growth. I conclude by providing recommendations for a strengths-based approach to recovery from trauma that may be useful for clinicians and educators working with this vulnerable population.

**Philip Garcia, Public Health**

Corey Basch, Public Health

Faculty Sponsor: Corey Basch

*Celiac Disease on YouTube*

Celiac disease is an autoimmune disorder that occurs after the consumption of gluten, which is a protein found in products like wheat, barley, and rye. The immune system attacks villi in the small intestine, which are responsible for nutrient absorption in the body. As a result, individuals with Celiac disease have compromised nutrient absorption, which could lead to serious health issues. There has been an increasing number of individuals that look to the Internet for health-related information. The purpose of this study was to describe the most widely viewed videos on YouTube related to celiac disease. The first 100 YouTube videos filtered by view
count were chosen, and other descriptive information like the source of upload (consumer, professional, or news agency), length, and content were noted. Using an information sheet from the National Institute of Diabetes and Digestive and Kidney Diseases, content categories were created, and coded dichotomously (yes or no). The 100 videos in the sample evaluated were viewed nearly 7 million times. Most videos about Celiac Disease were mostly informational, and this varied significantly by source. Consumer made videos were most likely to provide a personal experience about the disease (p = 0.005). Furthermore, very few videos provided information related to who is at risk for the disease (20.0%). Overall, only 35.0% of videos discussed how many individuals are afflicted, whereas news agency/media coverage reported this statistic in 65.0%. Information focused primarily on gluten as the cause of Celiac Disease (81.0%). Most videos did not portray symptoms that can be experienced by those with Celiac Disease, including bloating (29.0%), constipation (14.0%), or nausea (10.0%). Few videos included a description of how Celiac Disease is diagnosed (blood test, 41.0%; endoscopy 20.0%). Given the popularity and accessibility of YouTube, medical professionals have an opportunity to use this medium to reach a large audience in providing information on Celiac Disease.

**Sara Garner, Kinesiology**

Jason Wicke, Kinesiology, Samantha Legreaux, Kinesiology, Ben Chianchiano, Kinesiology

Deceleration-focused shoulder rehabilitative strategies in baseball and softball athletes.

Background: The purpose of this study was to examine the effects of deceleration-focused exercises on shoulder range of motion and throwing velocity in both softball and baseball players. The program was based off Tom House’s theory that tennis athletes rarely have shoulder pathologies because they hold the weight of a tennis racket as they decelerate, emphasizing greater activation in the posterior shoulder muscles.

Methods: Volunteers included 28 Division III William Paterson University baseball and softball athletes (18 females and 10 males; age: 19.18 ± 1.12; height: 1.71 ± 0.09 m; weight: 74.91 ± 14.20 kg). Females and males were evenly distributed across two groups for 14 exercise sessions (the resistance band or handheld medicine ball protocol). A pre-test and post-test collected the subject’s best active internal/external shoulder rotation and best throwing velocity at a target 40 feet away.

Results: A two-tailed, independent t-test showed no significant differences in velocity, internal rotation, or external rotation (p<0.01) between the band and ball groups. The Δvelocity mean in the band group (0.73 m/s) was doubled by the mean for the ball group (1.50 m/s). For Δ external rotation the band mean (2.86°) was greater than the ball mean (1.93°). In the case of Δ internal rotation the band mean (3.29°) was more than double the ball mean (1.29°).

Discussion: The findings of this research suggests that overhead athletes aiming to increase throwing velocity can benefit from performing deceleration training with weighted balls and resistance bands can improve shoulder rotation.

Support was provided by the Department of Kinesiology, College of Science and Health.

**Jamie Gentile, Performing & Literary Arts Honors Track, Communication**

**Binding**

Throughout college, I have been able to explore film as an art form. I have always been a very visual person with the desire to make people really feel something when they watch my work. Throughout various parts of my life, I’ve experienced difficult and abusive times with certain family members and partners. In college I met my current partner, who has also experienced estranged and abusive relationships with loved ones. He shared with me a short story he had written, a love story that was rather unique and beautiful. I immediately felt a connection to it, and wanted to represent it visually in a short film. I poured my heart into creating this piece that I can only hope people can connect with in some way. It represents what I have learned as a student, and what I have experienced as a person. I believe love comes in many different forms, and I aimed to demonstrate that in my piece.
David Gilley, Biology

Sarafina Cartelli, Biology, Lauren Poletti Biology

*How do honey bee colonies respond to components of the waggle-dance pheromone?*

Honeybees forage on flowers of many types, gathering pollen and nectar from as far away as six miles from their nest. Upon returning to the hive, a successful forager performs a “waggle dance” to recruit other bees to the profitable food source she has discovered. One element of the waggle dance signal is the release of a pheromone which past research in my lab has shown to be a foraging stimulant (Gilley 2014). This waggle-dance pheromone is made up of four compounds: two alkanes and two alkenes. Behavioral responses are evoked for some pheromones by one dominant compound, in other pheromones by each compound individually (“redundancy”), and in other pheromones by only the complete compound blend (“synergy”). A recent study performed in my lab showed that in binary-choice assays none of the pheromone’s chemical components produces a behavioral response on its own, suggesting synergy (Gilley et al. 2018). This study demanded follow-up experiments to confirm its conclusions in a natural behavioral context. To accomplish this, we used an actively foraging colony in an observation hive to quantify the amount of waggle-dance runs for 1) each compound alone, 2) for a mixture of all three compounds, 3) and for a solvent control. Here we report the outcome of these experiments, which are pending at the time of writing this abstract. These findings are of scientific interest in elucidating the mechanism of complex communication among invertebrates and because they have potential applications in agriculture.

Support was provided by the Assigned Release Time for Research (ART).

Susan Godar, Marketing & Management Sciences Department

Bela Florenthal, Marketing & Management Sciences Department

*Nonprofits Meet Millennials: A Conceptual Framework*

Millennials, those born between 1980 and 2000, are of increasing importance to nonprofit marketers. In this conceptual paper, we lay out a model that considers the influence of the characteristics of a charitable organization and the perspective of the Millennials in determining level of engagement and the ensuing donations to a cause. We also outline our next steps, an empirical test of the propositions.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Michael Griffiths, Environmental Science

*Megadroughts and human migration in Southeast Asia over the past 10,000 years*

The late Holocene in eastern Africa and Eurasia was characterized by one of the largest droughts of the past ~10,000 years (i.e. the ‘4.2 ka event’), yet the cause of this event remains enigmatic. The nature and geographical extent of the event has been a topic of great interest because of its potential connections with societal upheavals in western Asia and northeastern Africa. However, while paleoclimate data from India and southern China show evidence for a large-scale megadrought during this period, there have hitherto been no high-resolution and well-dated records from mainland southeast Asia (MSEA) to document the regional footprint of this event. This is somewhat surprising given that this period also coincides with what has been termed the ‘missing millennia’ in MSEA, which refers to the major gap in archeological evidence that may have some link with the broader Asian monsoon failure during this time. To help shed light on the potential connection between climate change and the missing millennia, we have compiled a new record of monsoon rainfall variability from a series of cave records recovered from Laos. Results show an abrupt period of drought at ~5,000 years ago, which coincides with abrupt cooling in Indonesia sea surface temperatures, and matches the timing of west African monsoon failure. Using fully coupled ocean-atmosphere model simulations, we show that reduced vegetation
and increased dust emissions from the Sahara acted to cool the Indian Ocean and shift eastward the Walker circulation, causing a weakening of the Indian Summer Monsoon.

Support was provided by the Assigned Release Time for Research (ART), Research & Travel Incentive Award, Student Research and Creative Expression Program (SRCEP), and a grant from the American Chemical Society Petroleum Research Fund.

Izabela Grzebyk, Cognitive Science Honors Track, Psychology

*The Effects of Language Proficiency on Mathematical Abilities in Bilinguals*

The current study was conducted to see whether the level of language proficiency has an effect on mathematical abilities in bilingual individuals and whether bilinguals have an overall advantage over monolinguals. This study was conducted in a college student population to see if students at a regional comprehensive university show these effects across different proficiency levels. The study consisted of a language proficiency test and a math test. In the math test, participants completed as many arithmetic math problems as they could in one minute. The hypothesis was that proficient bilinguals will solve more math problems in a minute than both less proficient bilinguals and monolinguals. Data was analyzed with t-tests and regressions. Data showed that bilinguals did not differ in mathematical abilities based on proficiency level and knowledge in a second language.

Katelyn Gunn, Nursing Honors Track, Nursing

*How Does Workplace Violence in the Emergency Department Affect Nurses Physically and Psychologically: A Systematic Review*

Workplace violence is a prevalent occurrence in the emergency department that is inflicted on registered nurses by patients, family members, and visitors. This violence can include both physical and verbal violence towards the nurse. This is problematic because it can have physical and psychological effects on nurses and change their job satisfaction and performance. This systematic review examines the literature to determine the physical and psychological effects that these acts of violence can have on registered nurses in the emergency department. 246 studies were assessed and 14 met the inclusion criteria and were included in the study. The outcomes of these studies determined that nurses who experience workplace violence report increased depression, anxiety, anger, decreased job satisfaction, lowered job performance, physical injuries as well as many other physical and psychological symptoms. The information presented in this study could be utilized in future studies in the development of prevention strategies and treatment programs for the registered nurses who experience workplace violence.

Tao Guo, Economics, Finance and Global Business Department

*Impact of Health Insurance Mandate on Household Financial Wellbeing*

The Affordability Care Act, so call Obamcare, mandates households to purchase a minimum level of health care coverage starting from 2014. One of the primary policy change in Trump Administration’s agenda is to replace the Obamacare and remove the health coverage mandate. This study contributes to this issue by studying the impact of health insurance mandate on household financial wellbeing. The finding shows that individuals with trait of time-inconsistency benefit more from the health coverage mandate. These individuals could be vulnerable if mandate is removed, so new health care act needs to address these issues before removing this mandate.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.
David Hack, Kinesiology

Motivations and Objectives for Corporate Sponsorship of Gay Games IX

In 2016, global sponsorships grew to $60.1 billion (IEG, 2017). Sport and leisure researchers have devoted significant amounts of time and effort to understanding this evolving component of the industry. The vast majority of this work has been devoted to corporate sponsorships of Olympic sport, professional sport, and National Collegiate Athletic Association Division I members. There is a void in the literature regarding the sponsorships of amateur sporting properties, particularly sporting properties which attract predominantly lesbian, gay, bisexual, and transgendered participants. The purpose of this study was to examine the motivations and objectives of companies which provided $4.16 million in sponsorship to the 2014 Gay Games, a quadrennial international LGBT amateur sporting mega-event. Employing a case study method, this research gathered data from site and participant observations, document collection, and semi-structured interviews with 14 sponsorship decision-makers representing 13 companies which engaged in sponsorship of Gay Games IX. Findings indicated that motivations for sponsorship included support for an event with aligned mission and values, a desire to support the northeast Ohio community, and a personal connection to the LGBT community. Objectives of the sponsorship included elevation of brand awareness and image, strengthening employee relations, and increasing sales.

Support was provided by the WPU Assigned Release Time for Research (ART) Program.

Mariam Hammouda, Public Health

Zoe Meleo-Erwin, Public Health, Corey Basch, Public Health, Aleksandar Kecojevic, Public Health,

A narrative analysis of Pre-Exposure Prophylaxis (PrEP) YouTube Videos

Introduction: Previous research has demonstrated that people use social media to seek support and to discuss health-related issues. Building upon our previous study on YouTube videos as a source of information on pre-exposure prophylaxis (PrEP), the current study aims to describe the personal narratives of individuals who use PrEP.

Methods: Informed by narrative theories, we conducted an iterative, bottom-up analysis of 10 YouTube videos posted by individuals who use PrEP. Videos were identified by the search terms "pre-exposure prophylaxis" and "Truvada". A list of shared thematic and linguistic characteristics was identified and analyzed.

Results: A typical narrative started with description of what is Truvada and what it is used for, followed by the personal reasoning behind a decision to start Truvada. Narratives covered a wide range of issues associated with PrEP, including how to obtain it, side effects, costs and insurance coverage. By and large, the videos encouraged those at risk for HIV to consider PrEP. Some narratives were characterized by dramatic tension and emotional engagement. Our analysis highlights the themes of story authenticity and both rational and emotional engagement in these videos.

Conclusions: YouTube videos are used to share individuals’ PrEP experiences with others. The results of this descriptive study may inform the development of narrative-based communication, particularly in maintaining authenticity and engagement.

Support was provided by the Student Research Fund of the College of Science and Health.

Bayan Hammoudeh, Nursing Honors Track, Nursing

Nursing Students’ Attitudes and Beliefs Towards CAM

In the past, complementary and alternative medicine (CAM) was used as primary health care in treating a multitude of ailments. Many studies have shown the benefit of using CAM interventions to treat a growing number of modern day conditions. Presently, as patients become more involved in creating their plan of care, it is likely that nurses will experience the use of CAM with their patients. For this reason, it is important to
understand how student nurses feel about CAM in order to understand the future of CAM use. This study used the theory of planned behavior to research the knowledge, attitudes and beliefs of nursing students towards CAM therapies. The CAM health beliefs questionnaire was completed by about 150 undergraduate nursing students in a public university in the northeast United States. Analysis of the data is currently being conducted and the final results of this study will be available in spring of 2018. The goal of this research will be to determine how nursing students feel about CAM therapies.

Support was provided by the Department of Nursing.

Jonathan Harris, Environmental Science

Jeremy Scott, Environmental Science, Allison DellaBella, Environmental Science, Jennifer Callanan, Environmental Science, Michael DaSilva, Environmental Science, Gregory Pope, Montclair State University, Matthew Hazen, PA Department of Conservation and Natural Resources

Investigation of Soil Chemistry One year after the 16 Mile Fire, Delaware State Forest, PA

The 16 Mile Fire began on April 20, 2016 and burned a total of 7,949 acres in the Delaware State Forest, PA. The high intensity and behavior of the fire was not typical for forests of this region and as such the long-term implications on the soil are not well understood. The fire intensity was attributed to a warmer than average winter leading to little snow pack and lack of fuel compaction, 3 years of gypsy moth defoliation, and an extreme drying due to a drier spring. It is the intent of this study to investigate the chemical properties of the soil one year after the fire to determine if the signature of the fire is still evident. Soil was collected from 16 sites and represent stony, loamy, inceptisols. Soil was sampled from the surface to depths of 12-15 inches and represent O, A, E, B, and C horizons.

An investigation of the surface soil 8 months after the fire yielded fire-related signatures which included increased pH, concentrations of available Ca, Mg, and K, and percentage of organic content in burned soils. Soil pH of burned sites were shown to approach pre-fire conditions, while pH of scorched soils, evidenced by white ash, decreased with time but remained well above pre-fire conditions. Available Mg and K showed a decreasing trend with time, while available Ca and percentage organic content continued to increase. Soil surface thickness increased in burned areas by up to 4cm. Soil color (dry) for burned surface horizons ranged from 2.5Y 3/1 (very dark gray) to 10YR 2/1 (black) to 10YR 4/2 (dark grayish brown). Ash color ranged from 2Y 2.5/1 (black) to 10YR 5/1 (gray). We anticipate similar trends in soil pH, Ca, Mg, K, and organic content of soil collected 1-year post-fire. We expect surface horizon depth to stabilize with time. Bulk density of the soil surface will be compared to percentage of organic content. We anticipate a difference in burned soil bulk density as compared to un-burned soil.

Forest productivity and succession is in part dependent on soil chemistry. Long-term alterations of a soil’s chemical condition as a result of atypical high intensity forest fire may influence the future structure of some northeastern forests. The results of this study will begin to address the lasting influence of high intensity fire in forests of the northeast as changing climatic conditions may begin to influence their fire regimes.

Support was provided by the WPU Assigned Release Time for Research (ART), the Student Research and Creative Expression Program (SRCEP), and the Student Research Fund of the College of Science and Health.

Nia Hayes, Humanities Honors Track, Mathematics

The Adventures of Beatrix Potter: A Victorian Writer, Scientist, and Entrepreneur

Though most know Beatrix Potter as a children’s author and illustrator, further exploration of her life proves that her talents far exceeded the world of literature. Growing up female in this period, Potter was subjected to narrow social standards for young ladies, denied a formal education, prohibited from travelling, and restricted at every turn. Among a handful of exceptional and gifted Victorian women from the upper classes, she fought to gain entry to a respected profession, inspiring future generations. Before becoming the beloved creator of
Peter Rabbit, Potter pursued the world of natural science, specifically mycology. The British scientific establishment rejected Potter, denying her a career in botany. Determined to establish her independence, she found another way to earn her living transferring her drawing and writing skills and redirecting her sharp intelligence as a pioneering female author and entrepreneur.

**Thomas Heinzen, Psychology**

*Game-Based Assessment*

This presentation summarizes the rationale for game-based assessments, identifies principles of game design, and demonstrates elements of two assessment games. One game assesses student endorsement of psychological myths; the second assesses students’ critical thinking.

**Christopher Herbert, Music**

*Voices in the Pennsylvania Wilderness: An Examination of the Music Manuscripts, Music Theory, Compositions, and (Female) Composers of the Eighteenth-Century Ephrata Cloister*

Founded in 1732 by Conrad Beissel, the Ephrata Cloister was a celibate, ascetic, German-speaking, Sabbatarian commune in the wilderness of Pennsylvania. Its residents produced a large corpus of hymns and motets, and also published the third music treatise written in what is today the United States of America. Because Ephrata produced no heirs, its documents were scattered and its traditions were forgotten over the course of the nineteenth century. Although significant strides have been made in recent years to understand Ephrata’s theology, substantial lacunae remain in the study of its music.

My work accomplishes four research tasks associated with Ephrata music. First, it provides a thorough descriptive catalog of all extant available Ephrata music manuscripts. This catalog is the first of its kind in this field, organizing music manuscripts according to their content. Next, the dissertation translates and analyzes the Ephrata music treatise, situating it within the history of music theory. It also examines Ephrata’s unorthodox use of a pedagogical tool for composition known as the règle de l’octave. Third, the study focuses on Ephrata music, discussing its content, style, and practice, proposing that hymns and motets were written in a workshop format, based on a set procedure of group composition. Finally, the dissertation explores the topic of authorship, and demonstrates that Ephrata music manuscripts provide evidence of America’s first female composers.

Support was provided by the Presser Foundation - Presser Music Award Winterthur Museum, Library & Gardens - Winterthur Research Fellowship.

**Djanna Hill, Department of Secondary/ Middle School Education**

Jyoti Champanerkar, Math Department

*STEM4EDU: Recruitment and Retention of Science and Math Teachers Who Inspire Learning in High Needs Districts*

This project aims to increase the number of STEM teacher candidates who become certified at William Paterson University (WPU) by providing scholarships to qualifying WPU students and by providing opportunities for STEM majors to be exposed to teaching as a career through summer internships, tutoring, supplemental instructional leadership or study group leader experiences. The lead institution, WPU, is working in partnership with Mercer County Community College (MCCC) to recruit STEM transfer students who are qualified for the Noyce Scholarship. Within the university, the College of Science and Health focuses recruitment of qualified candidates who will enter the College of Education as STEM teacher candidates. The project ensure that teacher candidates are capable of being inspiring teachers by enrolling in a science or math pedagogy course that focuses on cooperative, collaborative, and inquiry-based methods, contributing to an annual chronicle of STEM lesson plans, and by conducting classroom observations of Phase I graduates’ in high needs districts prior to graduation. Teacher candidates spend their clinical practicum as well as their student teaching semester in a high-need urban professional development school. Faculty advisors, teacher-mentors
and peer-mentors are assigned to scholarship recipients during their junior and senior years and mentoring will continue into their first two years of teaching. The project supports scholarship students through a social media forum, project identity, and annual recognition. This project broadens the participation of minority STEM teacher candidates and contributes to the literature on STEM teacher recruitment for high needs districts through 4-year and 2-year college partnerships.

Support was provided by the WPU Assigned Release Time for Research (ART), National Science Foundation, Robert Noyce Teacher Scholarship, Award # 1540694.

Nicholas Hirshon, Communication

We Want Fish Sticks: The Bizarre and Infamous Rebranding of the New York Islanders

The upcoming book We Want Fish Sticks, scheduled for publication with the University of Nebraska Press in December 2018, chronicles the rebranding of the National Hockey League’s New York Islanders from 1995 to 1997. After winning four straight Stanley Cups in the early 1980s, the Islanders had suffered an embarrassing sweep by their geographic rivals, the New York Rangers, in the first round of the 1994 playoffs. Hoping for a new start, the Islanders swapped out their distinctive logo, which featured the letters “NY” and a map of Long Island, for a cartoon fisherman wearing a rain slicker and gripping a hockey stick. The new logo immediately drew comparisons to the mascot for Gorton’s frozen seafood, and opposing fans taunted the team with chants of “We Want Fish Sticks!” During a rebranding process that lasted three torturous seasons, the Islanders unveiled a new mascot, new uniforms, new players, a new coach, and a new owner that were supposed to signal a return to championship glory. Instead, the team and its fans endured a twenty-eight-month span more humiliating than what most franchises witness over twenty-eight years. The new coach shoved and spit at players. The Islanders were sold to a supposed billionaire who promised to buy elite players; he turned out to be a con artist and was sent to prison. We Want Fish Sticks examines this era through period sources and interviews with the people who lived it.

Support was provided by the College of Arts and Communication Faculty Research Assistance Program.

Ma. Veronica Holganza, Biology

Kevin Martus, Physics, Jaishri Menon, Biology,

Plasma Exposure and Tail Regeneration: The Interplay of Calcium with Mitochondria and Peroxisomes.

As a new form of regenerative medicine, plasma treatment has found therapeutic applications in wound healing, tissue regeneration, and cancer therapy. Our previous results have shown that reactive oxygen species (ROS) signaling is required for wound healing and tail regeneration of Xenopus Laevis tadpoles, and ROS is in higher concentration in plasma treated tadpoles compared to control (Rivie et al., 2017). In this study, we focused on the role of Calcium (Ca2+), mitochondrial permeability transition pore (mPTP) and peroxisomes during wound healing and blastemal formation following tail amputation. Tail amputation was carried out by removing 40% of the tail and the amputated region was immediately exposed to helium plasma (generated inside a quartz tube with a single electrode powered by an AC voltage (15kH) having peak-to-peak voltages of 18kV) for 40 seconds. Tail tissues at the site of amputation were stained for calcium, mPTP and peroxisomes 24 hours and 5 days after plasma exposure. Our results on “in situ” staining, for calcium, mPTP and peroxisomes 24 h and 5d post amputation indicate that all these parameters were increased in plasma exposed tadpoles compared to control. The results suggest that: 1. There is an increase in extracellular calcium which is required for cell death of damaged cells, cell repair, and regeneration, which results from exocytosis of calcium from its stores (mitochondria and peroxisomes) 2. mPTP formation is probably associated with ROS generation, perturbed intracellular calcium regulation, and mitochondrial morphology probably (associated with fission and fusion of mitochondria) 3. When mitochondria are overloaded with Ca2+, ROS production by mitochondria might increase which confirms our earlier observations (Rivie et al., 2017). "Reference": A. Rivie, K. Martus, J. Menon. 2017. https://doi.org/10.1140/epjst/e2016-60243-3
Carrie Eunyoung Hong, Educational Leadership and Professional Studies

Deepening Teacher Learning with Video Clubs

Today’s teachers and students live in a technologically advanced world. Video technology in particular is at the center of heightened attention as it provides valuable learning opportunities for practicing teachers. This study investigates teacher learning in a video-based professional development environment called video clubs. Participants of the study are in-service teachers who are enrolled in graduate teacher education programs. Through an adolescent and adult literacy curricular course, teachers engaged in a series of video analysis and exercised their analytic and leadership skills by leading a video club with peers. In particular, the study is interested in exploring teachers’ varied ability to notice, interpret, and analyze specific features of classroom interaction as they participate in a video club. Benefits and challenges of teacher video clubs as a professional learning tool will be explored.

James Hook, Business Honors Track, Accounting & Law

How Do Millennials Choose Jobs?

This study examines the factors influencing millennials job choice. Millennials are becoming a larger proportion of the work force, and having the ability to attract talented millennials is becoming a leading concern for many companies. Some employment opportunities are assumed to be more attractive to millennials based on the levels of attraction that they have towards the differing opportunities. This study tests how the differing characteristics of employment opportunities have the ability to attract particular groups of millennials. By testing what millennials value, and contrasting those results with which employment opportunities they are attracted to, one can begin to determine which aspects of employment opportunities are effective in attracting millennials.

Matthew Iannuzzi, Cognitive Science Honors Track, Psychology

The Hairy Enigma

The most noticeable factors for the perception of males are hair color and facial hair. The current study used the same male face with four levels of facial hair (beard, goatee, moustache, and clean-shaven) and four hair colors (black, brown, blonde, and red). The participants looked at each of the 16 photos in a random order and were asked to rate each on five variables (attractiveness, aggression, masculinity, maturity, and trustworthiness). A repeated measures ANOVA was then conducted to analyze the data. The preliminary results support the hypothesis that dark hair is more aggressive, attractive, mature and masculine than lighter hair and that clean shaven is more attractive than facial hair.

Hailey Ismailovski, Business Honors Track, Economics, Finance, & Global Business

Factors Affecting Credit Score

Credit scores are reoccurring aspects of everybody’s lives. In order to have low interest rates on loans or credit cards, it is crucial for an individual to have a high credit score. Even when applying for a job, an individual may be denied due to a low credit score that is continuously haunting them. It is theorized that outside factors may influence credit scores. The researcher’s goal is to determine if gender, age, ethnicity, and education level have an effect on the range of credit score. Through this study, individuals will know which outside factors are influencing their credit score.
Dhara Jadav, Independent Honors Track, Nursing

*Substance Abuse and Risky Academic Decision-Making in College Students*

Students attend college for different reasons—some to achieve their long-term career goals through academic achievement, and others for short term rewards through parties and substance abuse. This research study explores how college students decide between grades and substance abuse. We asked students to quickly choose between a series of hypothetical choices: Study for a chance to increase your GPA, or take a small amount of a drug like alcohol that might decrease your GPA. The amounts—how much alcohol, how much the GPA increases or decreases, and the exact probability that the GPA actually increases or decreases—was varied over trials. We recorded participant’s choices, which allows us to measure how much people value drugs relative to their GPA. And we recorded their reaction times, which allows us to measure how cognitively easy the choice was. Together, we are able to estimate how participants tradeoff drug use with academic performance.

Jenny Jeanpierre, Psychology

*Ruchael McNair, Psychology, Jordan Stewart, Psychology, Amy Learmonth, Psychology,*

*Three-year-olds use of information in the environment in an object search task*

The relative importance of geometric or landmark information can be observed when putting the two sources of information in conflict (Wall, et al 2004). The present proposal would be for the presentation of a piece of a larger ongoing study using a computer-based experiment in which participants learn, through feedback, to correctly respond to either a moving landmark or geometric properties. The presentation would be three-year-old children’s responding in two conditions, one in which the landmark’s relation to the correct location is complex and another where the relationship, though still indirect, is more intuitive. Results show the expected preference for geometric information with a non-significant trend toward random responding as the conditions got harder, but no differences during training trials.

Mihaela Jitianu, Chemistry

*Anionic clays as Titanium dioxide enhancers. Sol-gel pathway and photocatalysis*

Titanium dioxide is an excellent chemically stable and non-toxic photocatalyst. It is broadly used for degradation of several environmental contaminants in carbon dioxide and water under irradiation with near ultraviolet light. The reactive species is the hole cogenerated with an electron upon absorption of a photon and carrying the main part of the light quantum energy. To keep the photocatalysis sustainable, it is essential to avoid the rapid recombination of electrons with the holes, goal achieved by creation of Nitrogen-doped titanium dioxide. Alternatively, layered compounds, such as anionic clays, or layered double hydroxides - LDHs – were found to improve the efficiency of photocatalytic reactions by inducing electron transfer, and by avoiding recombination of electrons and holes. LDHs are lamellar mixed hydroxides, containing divalent and trivalent metal ions, relatively easy and inexpensive to synthesize in the laboratory. Creation of new titanium dioxide-LDH composites employed the sol-gel method. The titanium dioxide component has been synthesized using Titanium (IV) isopropoxide, via sol-gel process, whilst the LDH constituent was generated starting from the corresponding Mg(II) and Al(III) nitrates, in situ, using urea. Composites have been tested for photocatalytic decomposition of vanillin, showing a high conversion rate into carbon dioxide and water. X-Ray photoelectron spectroscopy was used to directly identify the presence of the LDH phase in the composites. The photocatalytic test reaction was performed under visible light (575 nm), using vanillin as a phenol-model compound. The nanosized composites have been found very effective, displaying high conversion rates of vanillin into carbon dioxide and water.

Support was provided by the Center for Research - College of Science and Health.
Andreas Katsoudas, Clinical and Neuropsychology Honors Track, History

The Difficulties of Testing an Autistic Population

Researchers have consistently had to exclude certain autistic populations from studies because of logistical difficulties in their performance of certain tasks. As a result, there is a lack of good information on certain ASD children. This meta-analysis discusses the specific logistical issues that researchers face when attempting to work with this ASD population, as well as potential solutions to these problems.

Parminder Kaur, Chemistry

Hyun Lim, Chemistry, Prianka Chohan, Chemistry, Dina Moustafa, Chemistry, Chelsea Sweet, Chemistry

![Chemical Structure](image)

Green pathway: Mn-Terpyridine catalyzed dehydrogenative acceptorless coupling of amines and alcohols to give aldimine

Despite the fact that manganese is one of the most earth abundant transition metals, only next to Fe and Ti, its use in cross-dehydrogenative coupling reactions is still very limited. The transition metal complexes coordinated to terpy and terpy based ligands has been used in literature to carry out reactions such as water oxidation, and hydrolysilation of alkenes but they have never been used for the dehydrogenative coupling of amines and alcohols. In this work, we are reporting the use of Mn as metal center with ter-pyridine derivatives as coordinating ligand as an efficient catalytic system for the cross-dehydrogenative coupling of amine and alcohol to give the corresponding imines. The reaction was carried out in presence of 15 mol% of the Mn salt and 10 mol% of the Ter-py ligand in toluene for a day at 85 °C. The products were obtained in moderate to high yields after column purification.

Rajender Kaur, English

India in the American Imaginary, 1780s-1880s

India occupied a critical space in the Early American imaginary facilitated in large part by the triangulated relationship between the United States, Britain, and India forged by the far ranging reach of British imperial networks. The "idea of India" was consolidated in the American imagination through the circulation of goods and commodities and people from the subcontinent. India featured in a range of contexts from the 1780s-1880s – in conversations on fashion, aesthetics, religion, reform, trade, slavery, women’s rights – and studying this presence yields rich insights about U.S. nation- and identity- making from the late eighteenth to the late nineteenth century.

Morgan Keck, Nursing Honors Track, Nursing

Comparison of Mode of Delivery in Relation to Health Status of Newborns: A Systematic Review of the Literature

The way in which someone comes into this world may play an important role in the health of that individual in the early stages of their life and can affect everything from the development of allergies to the formation of key...
gut microbiota and more. This systematic review examines 21 studies to determine whether being born via Cesarean section has more adverse health effects in the early years of one’s life than being born via vaginal birth. The outcomes of the studies concluded that those born via Cesarean birth, whether planned or emergency, were more likely to develop health issues in various forms during their early youth, including being more prone to allergies and intestinal concerns. The information discovered during this study may be used to promote awareness of the issues that newborns and infants born via Cesarean section can develop.

Support was provided by the Department of Nursing.

Aleksandar Kecojevic, Public Health
Cory H. Basch, Public Health, Charles E. Basch, Columbia University, William Kernan, Public Health,

Pre-Exposure Prophylaxis (PrEP) YouTube Videos: A Content Evaluation

Background: Previous literature suggests that YouTube is extensively used to share health information. While pre-exposure prophylaxis (PrEP) is a novel and promising approach to HIV prevention, assisting individuals to make informed decisions is not straightforward. There is limited understanding of YouTube videos as a source of information on PrEP.

Objective: To describe the characteristics and content of the most widely viewed PrEP YouTube videos.

Methods: The key words “pre-exposure prophylaxis” and “Truvada” were used to find 217 videos with a view count >100. Videos were coded for source, view count, length, number of comments, and content. Results: The total cumulative number of views was >2.3 million, however a single Centers for Disease Control and Prevention (CDC) video accounted for >1.2 million of the views. Eighty percent of videos promoted use of PrEP, while 61% identified whom PrEP is intended for. In contrast, 36% of videos mentioned how to obtain PrEP, while less than one third addressed costs, side effects, and safety of PrEP. Medical and academic professionals/institutions were the source of the largest number of videos (30.4%), followed by consumers (29.0%), community based organizations (22.1%) and media (18.4%). Videos uploaded by the media were more likely to discuss the cost of PrEP (p<0.001), while the use of PrEP was less likely to be promoted in videos uploaded by individual consumers (p=0.002).

Conclusions: YouTube videos can be used to share reliable PrEP information to individuals. Future research is needed to identify best practices for using this medium to promote PrEP uptake.

Support was provided by the Partnership for Success Project, NJ Division of Mental Health and Addiction Services.

Tyler Kennedy, Clinical and Neuropsychology Honors Track, Psychology

Psilocybin’s Healing Potential

This literature analysis of the serotonin agonist psilocybin summarizes many studies that look at its extraordinary success rate in treating treatment resistant depression, end of life anxiety, OCD, alcohol addiction, and cigarette addiction. Psilocybin affects the serotonin system, neurogenesis, learning and extinction rates, and various parts of the brain. Psilocybin could potentially treat PTSD better than any other currently accepted treatment, and even lower the symptoms in autism. Psilocybin’s effects on extinction may be why it is so effective at treating various mental disorders. It is unknown if the underlying mechanism or the subjective experience itself is the root to psilocybin’s effectiveness. A current experiment at William Paterson is being conducted studying its effects on learning, extinction, reward sensitivity, and autism.

Support was provided by the Department of Psychology and the College of Humanities and Social Sciences.
Seongwon Kim, Business Honors Track, Economics, Finance, & Global Business

*The Consequences of Electronic Waste on Global Environment and Human Health*

It is hard to imagine a world without electronic devices. The twenty-first century is heavily dependent on electronic devices such as mobile phones, laptops, and tablets. The manufacturing of these items is likely to increase, but their lifespan is getting shorter. There are over 40-50 million tons of e-waste generated yearly. Whether they are dumped in developing countries, repaired, or recycled, it is a growing concern knowing that the amount of e-waste is unlikely to be reduced. This leads to a serious problem in our environment and health globally. This study is conducted through online surveys to a sample of subjects who own electronic devices and they will be asked about four topics: environment, health, e-waste, and selfishness so the relationships among these variables on the reduction of e-waste can be better understood.

Christi Kline, Environmental Science

Clint Mautz, Environmental Science
Faculty Sponsor: Martin Becker

*Nautiloid Cephalopods from Glacial Erratics: Evidence for Lag Deposit Formation in the Rickard Hill Facies of the Saugerties Member of the Schoharie Formation (Lower Devonian-Late Emsian), Helderberg Mountain Region, New York State, U.S.A.*

Glacial erratics belonging to the Rickard Hill facies (RHf) of the Saugerties Member of the Schoharie Formation occur scattered throughout the Lower Hudson Valley of New York and northern New Jersey Piedmont. These glacial erratics are most similar to lithologies exposed ~200km north in the Helderberg Mountain Region of New York. The RHf glacial erratics contain a concentrated assemblage of well-preserved nautiloid cephalopods dominated by large orthocomic and coiled taxa. These taxa are exposed along bedding planes by a complex sequence of physical and chemical weathering during transport within the Hudson-Champlain Lobe of the Laurentide Ice Sheet and deposition within acidic soils of regional ground moraines. Weathering also reveals taphonomic details within body chambers and phragmocones of these nautiloids that are not readily observable in outcrop exposures of the RHf. Some nautiloids display similar orientations on bedding surfaces that contain casts and molds of numerous invertebrates including trilobites, brachiopods and corals. Original taphonomic conditions indicate that the RHf nautiloids represent a post-mortem, localized lag assemblage transported by wave and current activity prior to final burial and fossilization. This lag deposit occurs at the boundary between third order eustatic sea level cycles Emsian 5 and Eifelian 1 and accumulated as part of a shallowing upward cycle bounded below and above by the sub-Aquetuck and sub-Edgecliff unconformities. Nautiloids and other invertebrate fauna were concentrated during multiple exhumation and reburial events where localized wave base was capable of eroding into the shallow shelf platform in this area of eastern New York.

Support was provided by the Student Research and Creative Expression Program (SRCEP).

Annamarie Klose Hrubes, David & Lorraine Cheng Library

*Introducing WPSphere, William Paterson University’s Institutional Digital Repository*

Institutional repositories are at a variety of larger and smaller universities. They serve as online storage spaces for scholarly works created by faculty, staff, and students. Ideally, they are open-access and allow a university to showcase what is created. However, there is much more to explore with institutional repositories. As William Paterson University’s David and Lorraine Cheng Library unveils the new institutional repository, find out how it can benefit your work, your student’s work, the academic community, and the university. This presentation will help you understand how the repository works, what features it has, and how to leverage it. You will also learn what kinds of works are optimal for the repository, including an explanation of self-archiving policies.
Joseph Larkin, Performing & Literary Arts Honors Track, Music

*Helianthus*

*Helianthus* is a collection of seven songs written between 2014 and 2018. They were written and performed on acoustic guitar. The project was supervised by Dr. Philip Cioffari.

Toni LaSala, Kinesiology

*Jordan Cola, William Paterson University, Genevieve Pinto Zipp, School of Health and Medical Sciences Seton Hall University, Michael Figueroa, Kinesiology*

*Energy Expenditure of Obese Men Walking with Body Weight Support*

Purpose: To investigate the effects of energy expenditure during walking at 100% to 75% while on a lower body positive pressure treadmill (LBPP) on energy expenditure in men classified as obese.

Results: Total EE, EEFM, and EEFFM were significantly lower (p<.05) at 75% BW compared to 100% BW.

Conclusion: Unweighting on the LBPP can is safe and can be used as an effective exercise modality to increase energy expenditure over time.

Rebecca Levin, Performing & Literary Arts Honors Track, Music

*The Art of Music: A Voice of Understanding in a World of Chaos*

The Art of Music: A Voice of Understanding in a World of Chaos investigates the connections between musical compositions and current events. Throughout every age of history, composers and casual musicians have taken themes from current events and used their music as an opportunity to comment on these events. Whether it is music as worship in religious settings under the masterful compositional hands of people like Johann Sebastian Bach or Wolfgang Amadeus Mozart, or Kurt Weill’s political and social commentary in works such as The Threepenny Opera, artists throughout history have used their medium as a method of communication. Music speaks to the heart and soul of people, letting them know they are not alone when life is hard and celebrating with them when life is beautiful. This thesis illustrates these points by examining the preparation and organization of a themed vocal recital in this light and providing video evidence of connections between unlikely pairings of repertoire.

Weihua Liu, Computer Science

*Bogong Su, Computer Science, Michael Greco, Computer Science, Dev Dave, Computer Science, Camila Murillo, Computer Science, Natalia Zaytseva, Computer Science*

Faculty Sponsor: Bogong Su

*Preliminary Study of Machine Learning Techniques for Software Performance Prediction*

Performance prediction is important in embedded system design for reducing the turnaround time of software development. Based on our previous results on software performance prediction, we have started a new project to predict software performance using various machine learning techniques, such as normalization, k-means clustering, k-nearest neighbors, and weighted regression. Comparison results between different methods and analysis will be presented.

Support was provided by the WPU Assigned Release Time for Research (ART), Student Research Fund of the College of Science and Health.
Weihua Liu, Computer Science

*Linear Complexity of Pseudorandom Sequences Generators*

Pseudorandom sequences play an important role in modern electronics and information technology. They are useful for a variety of purposes, such as generating encryption keys, gambling, statistical sampling and computer simulation. The linear complexity of a pseudorandom sequence describes the size of the smallest LFSR that can generate the sequence. It is a vital criterion to determine the security levels of stream ciphers. We will present the new results of the linear complexity of some kinds of pseudorandom sequences and a simulation of newly invented pseudorandom sequence generators.

Support was provided by the Center for Research - College of Science and Health.

Eros Livieratos, Performing & Literary Arts Honors Track, English

*A Small Hell*

Eros Livieratos’ novella “A Small Hell” was heavily inspired by the philosophy of time and absurdism. The book is divided into three parts and was written under the editorial lens of Dr. Philip Cioffari. The driving force of the plot is a painstaking introspection which relies on the dynamics of platonic relationships and traditional ideals as to what a writer “ought” to be.

Lara LoBue, Psychology

Meredith Connolly, Psychology, Amy Learmonth, Psychology

*Is imitation in children with ASD dependent on demonstration type?*

Current research suggests that children with Autism Spectrum Disorder (ASD) to imitate less than would be expected, even accounting for intellectual differences (Ingersoll, 2008). This study examined the ability of children with ASD to imitate may depend on how the task was demonstrated. Nineteen children diagnosed with ASD between the ages of 36 and 54 months participated in an imitation task where they completed a three-piece puzzle following a demonstration. Children were shown a targeted action being demonstrated by an experimenter using magnetic puzzle pieces (3D), or a touchscreen (2D), or presented as a prerecorded video. The participants were then asked to imitate the task either using the touchscreen or magnet board. The children’s actions on the puzzle videotaped and then coded for puzzle completion and imitation of gestures. This poster will show the puzzle completion results examining differences between children who saw the live demonstration and the video demonstration. Results will be presented in terms of puzzle completion data. Although the hypothesis was that children with ASD would imitate the video better than the live demonstration, preliminary data indicate no differences based on demonstration type.

Support was provided by the Special thanks to the parents and children who participated in this research and to the Magic Years Preschool in Woodland Park NJ and AmTree Developmental Nursery School in Montvale NJ. Thanks to Alecia Moser for technical and analysis assistance. *The clinical research is funded in part by The New Jersey Governor’s Council for Medical Research and Treatment of Autism and the New Jersey Department of Health* grant number CAUT14APL004 to AEL.

Aura Lora, Kinesiology

Toni LaSala, Kinesiology, Michael Figueroa, Kinesiology

*The Acute Physiological Adaptations of High Intensity Interval Training on an Anti-Gravity Treadmill*

Purpose: To determine if a reduction of body weight from 100% to 70% while performing a high intensity interval training (HIIT) program on the lower body positive pressure treadmill (LBPP) effects peak oxygen
consumption, respiratory exchange ratio (RER), heart rate (HR) and rate of perceived exertion (RPE) in males and females aged 18 to 25 years old.

Methods: Ten males and females were recruited and randomly assigned to HIIT on the LBPP treadmill at 100% and 75% of their body weight. The protocol consists of a warm-up at 3.0 mph at 100% body weight. As per randomization assignment the participant will sprint for 30 seconds at 4.5 mph followed by an active recovery of 3.0 mph for 30 seconds. The sprint speed will increase 0.5 mph and the active recovery will remain the same. The participant will complete 10 intervals then cool-down for 5 minutes at 100% body weight. Peak oxygen consumption, respiratory exchange ratio (RER), heart rate (HR) and rate of perceived exertion (RPE) were measured.

Results: Data collection in progress.

Conclusion: Reducing body weight on a LBPP device can decrease one’s risk of injury, and can also help an athlete continue to train if they have a lower extremity injury. Although metabolic demand (VO2peak and HR) was lower at 70% BW, this suggests that HIIT on the LBPP is a low intensity exercise. Low intensity exercise programs are recommended protocols so individuals can sustain physical activity over a period of time to maintain one’s level of fitness, without stress to the lower extremities.

Kem Louie, Nursing
Betty Kollia, Communication Disorders, Persephone Vargas, Nursing, Michael Figueroa, Kinesiology, Toni Lasala, Kinesiology, Racine Emmons Hindelong, Kinesiology

Evaluation of Interprofessional competencies among graduate nursing students, communication disorder and exercise science students

Purpose: The purpose of the study was to examine the effectiveness of an Interprofessional education (IPE) project among three departments in the College of Science and Health with graduate nursing students, graduate communication disorders and sciences students and exercise science students.

Methods: In the Fall 2017, faculty in the three departments provided assigned readings and discussions on IPE. Faculty organized ten teams of students composed of students from each discipline. The case studies involved patients with cardiovascular illnesses and stroke. The students were instructed to meet as a team and incorporate all elements suitable for each of the fields and applicable for interprofessional diagnosis and treatment plans. Student teams presented their treatment plan to the class after four weeks. The Interprofessional Collaborative Competencies Attainment Survey (ICCAS) (Archibald, Trumpower, and Mac Donald, 2014) is a 20 item self-report tool that measures student’s skills in six domains: communication, collaboration, roles and responsibilities, collaborative patient family-centered approach, conflict management/resolutions and team functioning. The ICCAS responses were on a 7 point Likert type scale from 1= strongly disagree to 7= strongly disagree. Upon completion of the team presentations, students completed the pre and post test reflecting on their responses prior to and after the learning project.

Results: 51 students participated in the IPE experience: 24 from nursing, 17 from communication disorders, and 10 from exercise science. A paired sample t-test was used to analyze the difference between the pre test and post test scores. For each of the 20 IPE competencies, all of mean scores increased as the student reflected upon the IPE learning experience. The results of the paired t-tests showed a significant difference (p<.05) between the pre-test and post-test pairs of the ICCAS. The Cronbach alpha coefficient for all the items is .98, suggesting that the items have a relatively high internal consistency.

Conclusions: The results show that health professions’ students in the sample perceived that their collaborative and teamwork competencies improved because of their participation in the IPE learning experience. Even though a majority of the students has a moderate level of working with IP teams in their work settings or internships, the results indicate that their perceived competencies increased as reflected in the difference between pre- and post- test scores on the survey. Health professions’ students are currently being educated in their own disciplines and this experience provided them with better understanding and interactions with other professionals and effective team functioning.
Payton MacDonald, Music

Sonic Divide

Sonic Divide is a new kind of performance art that explores musical events in specific natural settings, performed under radically different conditions than one normally experiences in the concert hall, documented for later viewing through film and audio recordings. Sonic Divide is a unique adventure that combines creative music with ultra-distance mountain biking. I rode my mountain bike over 2,500 miles—mostly off-road—while periodically stopping to perform music specifically created for this event, which I filmed and then turned into a documentary film. https://sonicdivide.com/the-film/

Sonic Divide features original music compositions by WP professors John Link, David Weisberg, Peter Jarvis, and Anton Vushima, and WP alum Travis Salim. WP alum Joseph Diaz provided additional editing and colorist, and WP alum Dominick Michele was the sound editor. The film was placed in six international film festivals and won “Best Documentary.”

Support was provided by the Assigned Release Time for Research (ART), Research & Travel Incentive Award.

Maitry Mahida, Cognitive Science Honors Track, Psychology

Natalie Lindemann (Obrecht), Psychology

Credibility and Salience predict increased Risk Perception, but do not lead to an Inverted U-shape function.

Lu et al. (2015) examined how the repetition of media reports affects the public’s risk perception. They found an increasing effect such that participants perceived a risk to be greater as they read about it more frequently. However, as the repetition of a risky statement increased beyond a threshold, participants’ risk perception decreased. As a result, risk perception follows an inverted U-shape function. In a series of two experiments we tested potential mediators that might explain why Lu et al. observed this U-shaped function of risk perception. The salience of the risk statements, as well as their credibility and emotionality, may decrease once they are repeated beyond a threshold. Our results of both experiments failed to show the inverted U-shape function of risk perception which Lu et al. reported. However, we consistently found that participants’ risk perception was higher when risky statements were rated to be more credible and salient.

Annelise Malgieri, Clinical and Neuropsychology Honors Track, Kinesiology

Independent Study: The Acute Effects of Music on Aerobic Fitness and Facial Emotive in an ASD Adolescent

The purpose of this study is to determine the effects of a music intervention in an autistic participant’s activities of daily living. The participant is an 18 year old adolescent male who has an autism spectrum disorder. The study will use a test and retest design, measuring performance with the presence of music and without the presence of music. It is hypothesized that the participant will perform better in the presence of music. The assessments that will be used will focus on facial expression recognition and motor skills. They are the Fitnessgram, Brockport Physical Fitness Test, and The Ekman’s 60 Faces test. The data will be analyzed using analysis software SPSS and Microsoft Excel.

Support was provided by the Department of Kinesiology.

Amanda Mallillin, Nursing Honors Track, Nursing

Does Understanding of Sexuality and Attitudes by RNs and Nursing Students Towards Sexuality Affect Patient Care?

Sexuality is a psychosocial component of every individual’s life and is attributable to one’s identity. It is essential for nurses to understand their patients holistically to provide complete and comprehensive care. Many
deterrents in health influence one’s sexuality and often patient concerns aren’t addressed. It is important for nurses to have the confidence, knowledge, and skills to assess their patients and address the topic of sexuality in a manner which is comfortable for both the nurse and patient. This study is a systematic review which examines the literature related to the relationship between the attitude and beliefs that nursing professionals carry towards sexuality and the effect on their care. The outcomes of this study indicate that there is a need for nurses to possess the skills and education on how to address sexuality with their patients. There is also a need for nurses to possess knowledge on how to care and approach all expressions of sexuality including LGBT communities and how to avoid prejudice.

Pete Mandik, Philosophy

*Future Technology and the Frontiers Self-Awareness*

Philosophers of mind have long worked with psychologists and other scientists to form a unified understanding of the nature of consciousness. Increasingly, these collaborations incorporate inputs from futurology, technology studies, and speculative fiction, as our technologies suggest strange new permutations of forms of self-awareness. Such permutations range from minor enhancements of self-awareness via mobile and wearable computers, to possibly drastic new forms such as conscious machines and human-machine hybrids and collectives.

John McElrone, Art

Faculty Sponsor: Matthew Finn

*The Spark Lightbulb*

When thinking how Explorations could be interpreted in an academic environment, I found the most relatable concept was the presence of an idea. Whether arriving through study, discovery, or an exciting “eureka!” moment, ideas can lead to innovation and success for any student willing enough to pursue them. This inspired the layout to give the viewer an “ah-ha!” moment, which was realized by deconstructing the form of a lightbulb… inviting those same students to discover the connection between the lightbulb, and the expression of creative study and academic achievement they are destined for.

Zoe Meleo-Erwin, Public Health

*Patients’ perspectives on the role of post-operative support following bariatric surgery: A qualitative analysis*

This presentation examines the role of support forums for post-operative weight-loss surgery patients. Within the bariatric literature, it is commonly noted that following surgery, there is substantive drop off in patient attendance at both follow-up appointments and surgical center support groups. In discussing this lack of follow-up, bariatric professionals underline the relationship between low attendance rates and poor weight loss outcomes. While barriers to follow-up are often discussed within the literature, ultimately it is patient behavior (specifically lack compliance with post-operative guidelines) that is defined as the problem. In this presentation, based on a thematic analysis of more than 225 blog posts and comments in two top patient-led online forums, I examine the importance of post-operative support from the perspective of bariatric patients themselves. I discuss the fact that post-operatively, many patients find in-person support forums to be helpful. Specifically, patients state that in-person meetings provide accountability, information, and allow them to both get and give support. Amongst those who do not attend, many find support informally within their social circles. The majority of non-attenders assert that surgical center support groups are better geared for pre-ops and "newbies" (or patients within the first year of their bariatric journeys). In addition, these patients frequently suggest that the location of the meetings and the times at which they are held pose barriers to attendance. By contrast, these patients suggest that online forums provide more flexibility of use, are better geared toward post-operative needs, and allow for the discussion of more sensitive subjects. I suggest that offering different meetings geared toward different patient sub-populations as well as maintaining a moderated social media
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   • Academic Success Center
   • First Year Foundations Program
   • Gloria S. Williams Advisement Center
   • Academic Progress/Early Alert Program
   • New Student Experience/First-Year Seminar
   • Sophomore and Junior Experience
   • Office of Testing
   • Transfer Student Experience

IV. Support for Student Learning
   • Career Development Center
   • The Counseling, Health and Wellness Center
   • Office of Disability Services
   • Science Enrichment Center
   • The Writing Center

For Information On These Programs
https://www.wpunj.edu/faculty-and-staff/teaching_research_grants.dot
presence for patients may help bariatric clinics address post-op patient drop off at clinical support forums as well as at follow-up appointments.

Support was provided by the Center for Research - College of Science and Health.

Karen Mendoza, Social Sciences Honors Track, Political Science

Observing the Portrayal of Immigrants on American Children’s Television Programming

Media representation of different racial and ethnic groups is important in a country that is known for its diversity. Existing literature recognize the importance of media representation of certain ethnic groups. Particularly, many studies observe the portrayal of ethnic minorities on prime-time television shows. The purpose of this study was to analyze how immigrants specifically are portrayed in American children’s television shows from 2001-2017. Using content analysis, the study looked at 34 seasons in total of various children’s television programming from Nickelodeon and Disney Channel. It also looked into speeches of Presidents George W. Bush, Barack Obama, and Donald Trump to observe their approach on immigration and how this approach affected public opinion on immigrants. Then, the study analyzed the relationship between public opinion on immigrants and immigrant representation on children’s television shows.

Nicole Miller, Biology Honors Track, Biology

Investigating the spatial foraging patterns of Apis mellifera L. in a mixed environmental setting using waggle dance decoding

Habitat loss is an ever-looming issue in today’s world, posing as a great threat for wildlife and biodiversity on a global scale, as it inevitably robs organisms of their natural habitat. In the case of urbanization specifically, which is especially common with the increasing expansion of human development, natural habitat becomes modified and distorted in such a way that many animals like pollinators have difficulty obtaining food. Using honey bees as a model, I used waggle dance decoding as a method to investigate the foraging patterns of a generalist pollinator in a mixed urban NJ setting. By translating the motions of the honey bee waggle dance into real-world locations, the preferred foraging sites of bees on campus were plotted on a map. Contrary to previous studies, the bees foraged close to the hive throughout the entire duration of the season in primarily urban areas overall, exhibiting relatively little interest in parks or the nearby mountain preserve. This finding suggests that, although urbanization has been shown to affect habitat quality, pollinators do not demonstrate obvious signs of struggling in all instances.

This research was supported by the Provost’s Office and the Student Research and Creative Expression Program.

Ali Mir, Marketing & Management Sciences Department

Raza Mir, Marketing & Management Sciences Department, Sia Nassiripour, Accounting and Law Department

(De)Colonizing the Future: Student Debt and Race

Debt has become a central organizing principle of our times and a mode of discipline/governance. The most pernicious form that debt takes in the US today is student debt, which has surpassed all other forms of consumer debt. However, the burden of this debt is unevenly distributed; African-American students are disproportionately impacted, resulting in conditions that recall an earlier period of Black indenture. While we theorize debt in the context of global capital, our paper focuses on its differential impact along the axis of race in the US. Through this work, we hope to encourage Management and Organization Studies scholars to pay attention to the conditions under which our students labor and struggle, and to work towards implementing solutions to this crisis.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.
Jan Mohlman, Psychology

Mood Swings and the Challenges They Bring

I will discuss 3 studies on emotional contrast. This will include studies of pleasant events that “backfire” in depressed students and clinically depressed patients, and the ongoing study looking at the effects of negative and positive feedback on confidence and verbal self descriptors in anxious and non-anxious college students.

Nicholas Morelli, Biology Honors Track, Biology

Learning and Decision Making in a Mouse Model of Autism

Autism Spectrum Disorder (ASD) affects nearly 2% of children worldwide, and is characterized by impaired social interaction, minimal eye contact, impulsivity, repetitive behaviors, and a limited range of intense interests. In control populations, each of these is largely controlled by value-based decision-making, leading us to question if people with ASD learn value, or choose actions, differently. We used the BTBR mouse model of autism to test for impairments in learning or decision-making in a value-based choice task. Mice had to switch from one option to another in order to earn a reward. On some trials, mice are rewarded after a short interval, on other they are rewarded after a longer interval. Over phases, we changed the probability of a short trial, the magnitude of the reward, and the delay to the reward—all ways of changing the value of a choice. We compare performance in BTBR mice with C57BL/6J controls.

Tyler Mortensen, Kinesiology

Racine Emmons, Kinesiology, Michael Figueroa, Kinesiology

The Effect of Sucrose vs Non-Nutritive Sweeteners on Blood Glucose Levels During Exercise

Purpose: The purpose of this study was to examine the glucose load (GL) between sucrose (SU) sucralose (SP), and stevia (ST) on blood glucose (BG) values, during exercise.

Methods: Twenty participants (n= 14 males, n= 6 females; M = 23 4years) were measured on 4 occasions. Participants were fasted (≥8 hours) and blindly provided with one of four beverages containing 30g SU, 30g SP, 15g ST, or no additive (NS) in a 474 ml solution. BG values were collected fasted, post-beverage, at each of the YMCA Bike Test protocol’s 4 stages, and 15- and 30-minutes post-exercise. Energy expenditure (RER) was measured using a metabolic cart during the 4 stages of exercise. Glucose response was determined by area under the curve (AUC). Paired samples t-tests determined differences among AUC and time to peak load for each of the beverages.

Results: SU AUC was significantly greater than NS, SP, and ST (912±109 mg/dL vs. NS: 712±86 mg/dL, P<0.01; SP: 735±93 mg/dL, P<0.01; ST: 717±79 mg/dL, P=0.01). SP AUC was significantly greater than NS (735±93 mg/dL vs. 712±86 mg/dL, P=0.016). SU peaked significantly later during Stage 4 of exercise, compared to NS (Stage 2, P<0.01), SP (Stage 3, P=0.009), and ST (Stage 2, P<0.01). At blood glucose peak, ST RER was lower than SU and SP (ST: 0.99±0.05 vs. SU: 1.12±0.08, SP: 1.05±0.06, P<0.01).

Conclusion: ST may be a better, natural alternative to weight loss as it does not increase glucose levels and the body must utilize fat for energy.

Support was provided by the Department of Kinesiology, College of Science and Health.

Jose Munoz, Biology

Faculty Sponsor: Sonya Biebrower

The Effects of Modulation of a Potassium Channel on Social Behavior After a Traumatic Brain Injury

Traumatic brain injury (TBI) results from an external force applied causing injury to the brain. It is commonly caused by violence, vehicle collision, construction, war and sport accidents. After a TBI, many metabolic
pathways are initiated that results ultimately in cell death. TBI can vary from short to long term symptoms while leading to permanent functional impairments similar to Parkinson’s disease. Most common symptoms include anxiety isolation, depression, antisocial behavior and cognitive dysfunction. This study identifies targets for treatment after TBI with the intent of reducing the brain injury cell damage. M-Channels are voltage-gated K+ channels present in neurons which play a role in controlling overall cell excitability. It has been shown that opening of M-channels leads to acute neuroprotective effects. Retigabine (RTG) is an anti-epilepsy drug that is specific to M-channels by reducing hyperexcitability; thus, reducing neuronal death due to excitotoxicity. This study induces a TBI in mice using a controlled-closed cortical impact (CCCI) device which allows for a precise/reproducible injury. Furthermore, examination of cell death with increasing severity of TBI provides insights into possible therapeutic targets. Cell death and cognitive impairments were assessed by a behavioral model that provides a comparable analysis between social deficits after a TBI between mice and humans over a period of time.

Support was provided by the Student Research and Creative Expression Program (SRCEP).

Nicholas Murray, Psychology
Amy Learmonth, Psychology

Creating a Virtual Space to Better Understand Human Navigation

Virtual Reality (VR) technology is revolutionary to the field of experimental psychology, because it allows for the construction of ideal environments for experiments, while reducing the risk of possible human error in recreating and expanding on previous work. The creation of environments that are large scale and naturalistic allows for a clearer picture of human navigation than could be gained in a laboratory maze, most of which are necessarily small and artificial. This presentation will focus on the use of desktop VR in the literature and the process of the creation of a VR environment.

Allison Neumann, Environmental Science
Chelesia Clarke, Environmental Science

Faculty Sponsor: Martin Becker and Michael Griffiths

The Extinction of the Megatoothed Shark Otodus megalodon: Evidence from Clumped Isotope Thermometry (CIT)

The largest and most iconic fossil shark to have ever lived is Otodus megalodon. Fossil teeth and vertebra indicate this highly successful apex predator achieved lengths up to 20 meters, weights exceeding 20,000 kg, and global distribution throughout the Miocene and Pliocene (23-2.5 MYA). A general consensus indicates that the ability to thermoregulate in O. megalodon acted as a key driver for the evolution of gigantism, which impacted its ecological role and success in surviving environmental changes. However, little agreement exists as to the primary cause for the disappearance of O. megalodon where models suggest predator-prey dynamics or environmental change resulted in extinction.

To address these alternative extinction hypotheses, ‘clumped’ isotope thermometry (CIT) was tested on modern shark teeth, with known thermoregulatory physiologies, to validate a previously reported calibration equation. Application of this calibration equation to fossils from O. megalodon reveal a much higher body temperature (~50 °C) compared with its smaller and modern equivalent, Carcharodon carcharias (~30 °C). We hypothesize O. megalodon would have had to consumed large quantities of prey in order to maintain such a high body temperature. However, cooling of ocean temperatures during the Pliocene would have constrained the species to lower latitudes where ocean temperatures were warmer, whilst its preferred prey (i.e. whales) evolved traits to adapt to cooler temperatures of the higher latitudes (e.g. ‘blubber’). Therefore, substantial climatic shifts combined with evolutionary limitations may provide the “smoking gun” for the extinction of the largest shark to ever roam our planet.
Samantha Nieves, Chemistry  
Jashri Menon, Biology, Kevin Martus, Physics

Characterization of a Plasma Source used to Accelerate Wound Healing of the Tadpole "Xenopus Laevis"

A plasma source used in a collaborative study that produced accelerated healing of wounds in the tadpole species "Xenopus laevis" has been analyzed. The discharge source operated with Helium gas at a flow rate of 50sccm that passed through a quartz tube. A copper electrode was attached to the outer surface of the tube at a point 5.0cm from the end of the tube. Attached to the electrode was an AC power supply operating at 32kHz and 12kV. The optical emissions were analyzed using a high-resolution spectrometer coupled to a CCD detector. The spectra indicated that molecular nitrogen was present in both the neutral and ionized states. Emissions from the radical OH were observed both inside and extending outside of the quartz tube. The emission profile was used to calculate the vibrational temperature and it was found to be 3500±350K. The rotational temperature was determined from a fitting of the Second Positive System transition at 337nm to a Boltzmann distribution and it was found to be 375±50K. The current was measured by monitoring the ground connection from a metal plate that was placed adjacent to the exit aperture of the quartz tube using a current transformer. When the plasma was “on” the signal consisted of an additional component superimposed on the sinusoidal background wave. The height of this current pulse decreased with distance from the exit aperture of the quartz tube.

Support was provided by the Student Research Fund of the College of Science and Health.

Leslie Nobler, Art

Digital Printing: Going Beyond Digital with Art History – A Focus on the Marginalized

With my work, I seek to entice viewers with complex layerings of geometric abstraction and color, while its subtext brings troubling issues to light such as ethnophobia and intolerance. I work at showing deep respect for the cultures that animate this work via art historical knowledge, reflection and time-honored, maker-engaged technique. Art of the marginalized, colonized or disenfranchised groups in society, past and present, is used as inspiration in making digital art, experimental prints, combined with analog techniques for enhancement. Much of the value in the computer art object rests in its connection to art’s roots, human history and touch.

Support was provided by the College of Arts and Communication Faculty Research Assistance.

Matthew Norton, Humanities Honors Track, History

Hungarian Immigration to the United States from 1848 to 1870

My thesis restores a lost generation of Hungarian immigrants to U.S. history. Hungary was in a state of political upheaval in the late 1840’s and 1850’s, surrounding the Revolution of 1848. The Austrian suppression of the revolution forced liberal Hungarians of privileged classes and backgrounds to flee to other nations. The Hungarian emigres to the United States during this period were relatively few in comparison to the wave which followed in the 1870’s. However, these earlier emigres were unique in that they came for political reasons and were from the more prestigious gentry of Hungary. They brought with them aspirations to create a new Hungary abroad. In this pursuit, these early Hungarian emigres became influential in militant, economic, and social spheres the United States. These distinguished Hungarians had a significant collective historic contribution to US history, which my research is now recovering.

Amanda Nowakowski, Nursing Honors Track, Nursing

The Effect of the NICU on Neonatal and Infant Sleep: an Integrative Review

Sleep plays an essential role in development for neonates and infants in the Neonatal Intensive Care Unit (NICU), and therefore, the protection of sleep in this population needs to be taken seriously. The purpose of this integrative review was to determine how neonatal and infant sleep is impacted in the NICU and to identify
interventions that could potentially promote sleep. The outcome of this review determined that there are specific environmental stimuli that disrupt infant and neonatal sleep in the NICU and that interventions to lessen these effects are not being implemented, especially due to the lack of knowledge of the healthcare team. It is recommended that standardized guidelines for the protection of sleep be made, for NICUs to implement safe sleep programs, for staff education to be increased and for future research to focus on how the disturbance of sleep impacts this population later in life.

Nagyla Obien, Humanities Honors Track, Biology

DACA & The Dreamers’ Struggle for Higher Education

This thesis explores the challenges that the recipients of the Deferred Action of Childhood Arrivals (DACA) face. These immigrant youth in the United States continuously struggle to prove they belong in the country they already consider their home. With so many DACA recipients on edge about their fate in America, I try to capture a sense of what they must feel living in a country, simply trying to accomplish their goals, and what it may mean for them if they get deported. The immigration issues in America continue to be debated and the Dreamers have been caught in a “limbo”, virtually helpless, until Congress forms a decision that determines the fate of their future, as well as the entire nation’s.

Lynne Orr, Dean’s Office, College of Education

Alex Chambers, Counseling and Special Education, Alex Corsillo, Higher Education Administration and Leadership Program, Azaria Cunningham, Higher Education Administration and Leadership Program

Investigation of Praxis Core: Test Completion of Teacher Candidates

The state of New Jersey and William Paterson University’s teacher candidates seem to be struggling with passing the Praxis Core (5751), basic skills testing: reading, writing, math; for teacher candidates. A research study was initiated to discover teacher candidates’ test repeat, and what helped the student the most to pass each of the three tests. An electronic survey was distributed to undergraduate education students with 30-90 credits. In addition 8-10 teacher candidates were interviewed. This session will discuss the results and further recommendations for discovering how our students can improve their pass rate for the Praxis Core.

Lynne Orr, College of Education

Engaging Students with Informal Assessments Using Apps

Two creative engaging activities were facilitated in an Assessment course, for the graduate program in Higher Education Administration. Students were asked to send a bitmoji representing their visual representation on how they were feeling about the course during the first day of the class and the last day of the course. Students also participated in a “Wordle” visual concept map representing what they think assessment is, including three words which represent the word "assessment". Both were incorporated into a PowerPoint presentation as a concluding course activity.

Jennifer Owlett, Communication

Kelly Rossetto, Boise State University

Beyond Blurred Boundaries: Mediated Social Support for Military Partners

In this project we examine how partners of U.S. service members use online mediated support. Data were analyzed using thematic analysis, with particular attention paid to peer/non-peer support and support benefits and consequences. Our interview data highlight two notable findings. First, participants prefer support from peers rather than non-peers (i.e., civilians). Second, participants indicate a support paradox (within-users and
between-users). Three sub-themes (open versus closed disclosure, public versus private concerns, and inclusion versus exclusion), each in the context of blurred boundaries, are relevant for understanding this support paradox. We explore theoretical implications of the findings using relational dialectics theory (Baxter & Montgomery, 1996) as a lens. Practical implications are also explored.

Support was provided by the WPU Assigned Release Time for Research Program (ART), and the College of the Arts and Communication Center for Creative Activity and Research (CCAR).

Keumjae Park, Sociology

Max Weber and East Asian Development

In the early twentieth century, Max Weber’s analyses of world religions had concluded that East Asia’s traditional societies and cultures were inadequate for a rise of modern capitalism. Since the spectacular growth of East Asian economies, however, Weber’s thesis has been revisited and critiqued. In an interesting historical irony, developmental literature has often attributed the region’s economic success to Asian values. How do we read Weber in light of this paradoxical historical development? How does a Weberian encounter with East Asia’s contemporary prosperity inform us about the interplay of culture and economic systems? Exploring these questions, I review Weber’s work on East Asia, and critically examine the concept of “Asian values” as a key formula of economic success. On one hand, I will critique Weber’s heuristic ethnocentrism, and, on the other, I will critically call into question an ahistorical and reified conceptualization of culture as the key to East Asia’s economic success. My presentation will discuss the ways in which culture was strategically appropriated and mobilized by the state and economic entities for their development and nation-building agenda.

Support was provided by the Assigned Release Time for Research (ART).

Karan Patel, Kinesiology

Toni LaSala, Kinesiology, Jordan Cola, Kinesiology, Racine Emmons, Kinesiology, Michael Figueroa, Kinesiology, Jacob Dabon, Kinesiology

Caffeine Supplementation on Anaerobic Power during Sprint Interval Exercise

Purpose: To investigate the effects of caffeine on performance during Sprint Interval Exercise (SIE).

Methods: Using a single-blind, placebo-controlled design, a total of 26 college aged participants (mean ± SD; age 22.96 ± 2.218 years, mass 76.74 ± 17.73 kg, height 66.73 ± 4.07 in) completed two exercise trials on non-consecutive days. The exercise trial was performed 45 minutes after ingestion of either 5 mg·kg⁻¹ of body mass caffeine or placebo. The Wingate Protocol was used to measure peak power and anaerobic capacity.

Results: The results indicate no significant difference in peak power between caffeininated and placebo trials 1 and 4, (t(25) = -1.34, p > .05), (t(19) = -1.62, p > .05), respectively. There was a significant difference in peak power between caffeininated and placebo trials 2 and 3 (t(25) = -2.072, p < .05), (t(25) = -2.50, p < .05), respectively. The results indicated anaerobic capacity was not significantly different between caffeininated and placebo trials 1, 2, 3, 4, (t(25) = 1.34, p > .05), (t(25) = 0.28, p > .05), (t(25) = -0.50, p > .05), (t(19) = -0.05, p > .05).

Conclusion: The study found a moderate dosage of caffeine did not significantly affect performance. Peak power and anaerobic capacity were not impacted by caffeine supplementation. This suggests caffeine supplementation may not enhance performance during high intensity interval training. In fact, caffeine may have been ergolytic in nature, as placebo trials showed high power outputs most noticeably in the third sprint.

Support was provided by the Student Research and Creative Expression Program (SRCEP).
Andrea Pereda, Public Health
Faculty Sponsor: Aleksandar Kecojevic

Exploring Support for 100% Tobacco-Free Campus Policy at WPU

Introduction: Increasing number of college campuses has identified tobacco-free campus policy (TFCP) as an effective measure to address tobacco use among college students, faculty, and staff. This study explores William Paterson University (WPU) support for a university’s TFCP.

Methods: An entire WPU community was invited to participate in a structured questionnaire on December 5th 2017. We collected information on tobacco use habits, support for TFCPs, and socio-demographic characteristics. Descriptive and difference analyses were conducted to identify key factors associated with support for TFCP.

Results: A total of 1248 students, faculty and staff responded to survey. In the past 30 days, 11.8% of respondents used cigarettes, 14.3% other smoking products, 15% vaporized nicotine products, and 3.8% smokeless tobacco products. Majority of respondents (59%) supported prohibition of smoking on the entire campus as a mean to keep secondhand smoke away from other students and staff. A total of 60% of respondents would be supportive of TFCP if quit tobacco services are promoted. Half of respondents would prefer a “tobacco-free” college to a college that allows use of tobacco on campus. Finally, 51% agrees that WPU should prohibit use of all tobacco products on campus.

Conclusions: Study findings suggest that majority of WPU constituents are in support of TFCP. Thus, this study is well poised to inform a new WPU tobacco policy.

Support was provided by the American Cancer Society supported by CVS Health Foundation, Tobacco-Free Generation Campus Initiative.

Anthony Petruccello, Music Honors Track, Music

French Polyphonic Music of the 14th Century

Music notation, like language, has evolved throughout the centuries; as a result, medieval notation is quite different from modern notation. The main goal of this paper is to give a general understanding of medieval music notation, as well as a more specific understanding of a particular kind of notation from southern France during the late fourteenth century; I will look at a specific piece from this time and place, called Tout par compas by Baude Cordier. This piece is of a style known as the Ars Subtilior (the subtle art), which is characterized by its complex rhythmic notation. I will translate the old notation of this piece into modern notation and explain how it was done.

Summer Pirro, Cognitive Science Honors Track, Mathematics

Math Anxiety: The Adverse Effects of Anxious Teaching

For my Honors thesis, I looked at the relationship between anxious teacher behavior and student performance. To study this, I recorded myself teaching a math lesson two different ways. In one video, I taught the lesson as I would normally, and in the second video, as a teacher with obvious anxiety. Participants were required to watch the video lesson and 4 post-lesson questions. The students then completed a short version of a Math Anxiety Rating Scale. The hypothesis was that students who watched the anxious teacher would perform worse than the students who watched the non-anxious teacher. My results show that students who saw the anxious video did, in fact, perform worse than students with the non-anxious instruction. Furthermore, those who watched the anxious teacher reported feeling more anxiety on the post-test math anxiety scale.
Kristen Podmajersky, Business Honors Track, Economics, Finance & Global Business

Perceived Fairness of Pay Moderates Motivation

Many managers are noticing the strong relationship between motivation to work and job productivity and efficiency (as cited by Rozman et al., 2017). Because of this, it is essential to incorporate managerial techniques that increase motivation into a workforce. Understanding the factors that increase motivation is imperative in discovering effective techniques, which is the goal of this paper. Examining millennial motivation specifically can help managers learn how to create a workplace that can inspire fresh workers to reach goals and become productive members of society. Through administering a survey to 120 millennials aged 16-36, quantitative data is collected to run regressions and realize which factors impact motivation to work. Pay, meaningfulness of work, and coworker relationships are studied because these are principal areas managers have an impact on. It is expected that these three factors will have a positive correlation with motivation to work. The perceived fairness of pay is studied to see its role in moderating the relationship between pay and motivation to work. It is expected that perceived fairness of pay will strengthen the relationship between pay and motivation to work. These anticipations are due to Maslow’s hierarchy of needs which includes physiological, safety, social, ego, and self-actualization needs. Pay relates to safety needs, meaningfulness of work relates to self-actualization needs, coworker relationships relate to social needs, and perceived fairness of pay relates to ego needs.

Daniel Popoloski, Performing & Literary Arts Honors Track, Communication

Living in Ignorance

Dan Popoloski has written a collection of short stories about his childhood, “Living in Ignorance”. It takes a journey through the many foolish and funny mistakes that Dan made throughout the early years in his life, and how they impacted in him in the future. While each story can be told independently, they tie together in a strong characterization of who Dan is. The project was supervised by Dr. Philip Cioffari of the English Department

Sharon Puchalski, Nursing

Renee Pevour, Gina Pasquale, Nursing

Perceptions and experiences of undergraduate nursing students in pharmacology: Strategies for Success

This research project explored the perceptions and experiences related to teaching and learning resources, as well as strategies that promoted success in a nursing pharmacology course. Undergraduate nursing students who completed the course, participated in the survey. Nursing faculty recognize that student’s feedback is an excellent indicator for identifying preferences and most helpful resources utilized to improve student’s success in pharmacology. The study of pharmacology is imperative and is integrated within the undergraduate nursing curriculum. Nursing faculty teaching pharmacology must provide students with a solid foundation utilizing multiple teaching strategies on the basic concepts of pharmacology. The nurses’ roles in administering and educating patients about their medications is complex and essential to the provision of safe, quality nursing care in all healthcare settings. Nursing students must apply pharmacological knowledge about all drug classes, prototype drugs within the class, along with commonly prescribed medications. Nursing students must understand the magnitude of this role and have an understanding of commonly occurring health problems in order to make safe clinical decisions in medication administration and management based on the patient’s health history and current diagnosis. Nursing faculty explain the pre-medication administration assessment, medication administration, and evaluative factors such as efficacy, safety, suitability, and cost. Nursing students practice communicating the teaching and learning needs to patients about each of the medication classes. Improved educational initiatives are necessary to increase students’ knowledge and success in undergraduate pharmacology. In addition, questions on pharmacological and parenteral therapies account for approximately 12-18 percent of the NCLEX-RN® licensure exam.
Sharon Puchalski, Nursing
Nicole Despirito, Nursing

*Physical Activity: Utilizing guidelines to promote health among pregnant women*

Physical activity is considered both desirable and beneficial to improve and maintain health and general well-being. Physical activity is recommended for most pregnant women to help achieve physical health and wellness. It is important for women to understand that regular physical activity should continue when they are pregnant. Equally important is that women understand that even if they weren’t physically active prior to pregnancy, it is not too late and they can start engaging in physical activity. Healthcare providers must be aware of strategies to promote health and develop effective interventions to help women adopt healthy lifestyles that address the importance of physical activity. Healthcare providers must address any obstacle and provide an initiative to remove barriers to behavior change. Regular physical activity must be encouraged so the patient will choose to adopt healthier behaviors that will improve and promote health outcomes for both mother and fetus.

Erin Quinn, Kinesiology
Michael Figueroa, Kinesiology

*Cardiac Rehabilitation Case Study*

The patient is 69 years of age with a height of 70 cm and weight of 91.8 kg. BMI was 29.7. Patient is a part time bus driver and part time referee for high school basketball. Medications being taken are aspirin, metoproporl tartrate (beta blocker), rapaflo and dutasteride for prostate, and supplementing with Centrum Silver (1 tablet daily). Past medical history includes a previous heart attack (not stated when), high blood pressure, and high cholesterol. No family history was on file or listed in paperwork. The patient presented stable angina with substernal chest pressure and shortness of breath on 12/15/17 and was admitted to Hackensack University Medical Center. Pain was located in center of chest and radiated to the left shoulder. The patient describes a pain as a dull pressure and rated 9/10 severity. The pain has been associated with exertion. A stress echocardiogram was completed using the Bruce Protocol method. A chest x-ray was also done. Patient reported chest pain, dizziness, and shortness of breath during stress test. Overall, patient’s exercise capacity was mildly impaired. Stress ECG revealed non-specific ST-T wave abnormalities. ECG was consistent with ischemia. Echocardiogram revealed stress echo was positive for ischemia. The findings from testing concluded that there was a non-ST elevated myocardial infarction from a previous myocardial infarction and active problems including an abnormal EKG, hypertension, hyperlipidemia, and atherosclerosis of native coronary artery with unstable angina pectoris. Plan of care included cardiac rehabilitation, taking aspirin, atorvastatin (cholesterol medication), and lopressor (antihypertension medication).

Donna Rennar-Potacco, Science Enrichment Center

*Factors Influencing Student Adoption of Synchronous Videoconferencing for Online Instruction and Support*

Synchronous videoconferencing provides higher education with an innovative method of communicating with students. This presentation discusses the factors that influenced student adoption of synchronous videoconferencing for online academic support and provides recommendations that can help instructors and institutions design and implement strategies for programs and courses that are more likely to be adopted by students. The identification of these influences were derived both deductively, using Rogers’s (2003) diffusion of innovation theory and Wejnert’s (2002) framework for the Diffusion of Innovation Theory, and inductively from observational and interview data.

Quinn Reynolds, Cognitive Science Honors Track, Mathematics

*Do Adults Remember Elementary School Material?*
Parents are a source of help when elementary school children struggle with their homework, but there is little available information about their ability to provide help. In this study, adults old enough to have elementary school children completed a test of thirty fourth-grade mathematics and grammar questions and rated confidence in their answers. Results showed those with more education had more correct answers and the questions that were answered incorrectly had high confidence levels.

Rachel Rivell, Business Honors Track, Economics, Finance, & Global Business

*How Effective Is Social Media Advertising on Millennials*

Social media is becoming a massive part of the marketing industry for companies. It is becoming more popular due to a majority of the population being a part of social media. Millennials are the group that will be studied for this research. This group was picked due to the fact that they are tech savvy and are heavy users of social media. The research will show the interaction between Millennials and social media advertising. It will measure the effectiveness of social media advertising through data collected through survey questions. The research will suggest if social media advertising is a good way to target Millennials. The participants will be asked questions about advertisement preference, length, brand familiarity, and purchases through social media. Since Millennials were raised in a technological generation, social media advertising should play a huge role in targeting customers from the millennial generation. The presentation will show if Millennials are swayed by social media advertising.

Zachary Robbins, Kinesiology

Michael Figueroa, Kinesiology

*Effects of Self-Myofascial Release on Anaerobic Power*

Introduction: The purpose of this study was to evaluate and determine the effects of self-myofascial release with the use of foam rollers versus dynamic stretching on the vertical jump test. It was hypothesized that foam rolling would provide greater benefits to the vertical jump than more traditional dynamic stretches.

Methods: Twenty five participants took part in two testing sessions. Both sessions began with a moderately intense 2-minute jog. One session included various foam rolling techniques after the jog while the other testing session included various dynamic stretches after the jog. Both sessions ended with three counter-movement vertical jump trials.

Results: An ANOVA with repeated measures revealed a significant difference in jump height from trial 1 to 3 within each group (p=0.001), but not between groups (p=0.672). No significant difference were shown between groups for trial 1 (p= 0.831), trial 2 (p= 0.998), or trial 3 (p= 0.920).

Discussion: The findings of this study indicated that, while neither foam rolling nor dynamic stretching proved to be a more effective technique to warm up for power athletes, both techniques were effective. This research was important as it helped to determine whether self-myofascial release with the use of foam rollers was an effective strategy for athletes to use as a warm up technique prior to practice or competition.

Support was provided by the Department of Kinesiology, College of Science and Health.

Rachelle Romero, Public Health

Corey Basch, Public Health

*Health Information Seeking Among College Students*

The quantity and diversity of informational resources have made searching for health topics simple and brief today, particularly with the emergence of the Internet and social media. College students are largely health information seekers. They are taking more initiative on their own health or for the health of others. The practice
of seeking health information has proliferated among this population as a result. Finding information, especially online, can be beneficial and easy for many; however, harmful and difficult for some. While there is a plethora of materials available, the accuracy of these may be unclear and potentially put at risk the health of college students. A survey was developed and administered to students enrolled in all sections of the course Healthy U. The instrument was divided into three key segments with questions tailored to assess the behaviors and perceptions of access to health information and opinions of skin cancer in conjunction with health information seeking. The segments were titled as the following: Finding Health Information; Internet, Social Media, and Health; and lastly Skin Health. The aim of this study was to identify where college students primarily find health information, evaluate how and why they pursue such information, and assess their application of what is found in their decision-making and problem-solving of health-related issues. Results of the research will be provided on the day of the poster session.

Support was provided by the Center for Research, College of Science and Health.

**Julie Rosenthal, Elementary and Early Childhood Education**

Elizabeth Brown, Elementary and Early Childhood Education

*The Collaborative Constructivist Approach*

A “theory-practice divide” has long been implicated as a major shortcoming of educator preparation programs (i.e. Ord & Nuttall, 2016). In general this term has been used to describe the disconnect TCs experience when transitioning from campus-based coursework on theory and research to school based clinical practice where they may have difficulty applying the constructivist, learner centered methods studied to work with students in classrooms (Smagorinsky, Gibson, Bickmore, Moore & Cook, 2004). Teacher candidates might attempt to use constructivist approaches, but too often fail to effectively execute such teaching due to several possible obstacles such as their own limited understanding of constructivist teaching, lack of content knowledge, classroom management issues, a school culture that is inconducive to inquiry or student centered learning (Windschitl, 2002) or their own personal epistemology and limited teaching experience (Yang & Chang, 2008). The focus of this poster presentation is to examine the Collaborative Constructivist Approach utilized by a team of teacher educators in an attempt to integrate essential material with active learner centered enterprises. This approach has allowed Teacher Candidates to master content while also exploring constructivist methods. The approach incorporates the use of a “tiered fishbowl” to allow for multiple levels of observation and guided reflective discussions as recommended by Darling-Hammond. The approach also provides TCs experience with socioconstructivism: Teacher candidates work together to evaluate teaching plans, discuss lesson implementation, describe evidence of children’s learning, and consider ways to improve their practice, forming a shared understanding through the process (Sullivan, 2011).

Support was provided by the WPU Assigned Release Time for Research (ART).

**Allison Salehi, Mathematics**

Jyoti Champanerkar, Mathematics

*How long will your iPod last?*

Electronics such as laptops, iPods, iPads last forever; they all have finite lifetimes. Their lifetimes depend on various conditions in which they are used (hot, cold, wet, dry), the number of times they’re recharged and such other factors. Since there is variability and randomness in the lifetime of a gadget, we will consider only the average lifetime of a gadget. In this project we investigate a few basic questions in computing lifetimes of iPods.
Fallon Salkins, Nursing Honors Track, Nursing

_Dignity in End of Life Care_

End of life care is a growing need for many patients as they age while living with multiple chronic conditions. One of the best ways to provide efficient care for these patients is to consider dignity during this time in their lives. Dignity is a difficult word to define and can change from person to person. This systematic review examines the existing literature on dignity in end of life care with the purpose of defining dignity during this period and establishing the importance of healthcare workers fulfilling this need. Eight studies met the inclusion criteria and were reviewed. Some common themes found were respecting the person, including the person in the care plan, treating the patient as a person, and many other themes. This information can help nurses and other healthcare workers to properly care for patients during a time when they need it most.

Support was provided by the Department of Nursing.

Celine-Ann Samaniego, Nursing Honors Track, Nursing

_What are the Effects of Therapeutic Humor on Emotions in the Geriatric Population: A Systematic Review of the Literature_

As the baby boomer population begins to age, more and more of today’s population is above 65 years old. With this growing group, many physical, mental, and emotional problems begin to manifest in a larger population. Some of these situations that begin to occur include deterioration in various aspects such as health issues in nutrition and hydration, mobility, stress and loss, accidents, drug use and misuse, mental health/cognition problems, and elder neglect and abuse. This systematic review examined the effects of therapeutic laughter on emotions in the geriatric population. The purpose of the study was to compile the various benefits of therapeutic laughter on the geriatric population. One qualitative and seven quantitative studies met the inclusion criteria for examination. Results are currently being analyzed to determine if this form of alternative therapy has positive outcomes within the geriatric population.

Support was provided by the Department on Nursing.

James Samuel, Marketing & Management Sciences Department

_Rajiv Kashyap, Marketing & Management Sciences Department_

_When the going gets tough, the tweets get going! Sentiment analysis for social media posts and real world implications._

Social media posts can have significant mass impact on domain and subject matter opinions. Stock prices, volumes and metrics are influenced by turbulence in their information ecosystem. Analyses of digital information networks and social media information events have shown that information artifacts affect stock performance with varying degrees of disconnection to fundamentals. There is an urgent imperative for clarity and understanding how the sentiments associated with information artifacts in Twitter (due to its extensive usage in relevant signaling), are associated with stock performance. We perform an exploratory analysis to study patterns of associations between tweets and stock price fluctuations, trading volumes, and associated metrics. Our focus on tweet information content deploying textual analytics, seeks to identify patterns in tweet behaviors and changes in sentiment and key metrics.

Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

Estefania Sanchez, Business Honors Track, Accounting & Law

_The Academic Performance of Caregivers_

The purpose of this research is to provide data of the possible factors that contribute to or influence the academic performance of a college student caregiver. This research will also examine these college students’
preferences for online or face-to-face courses, their participation in college extracurricular activities. The academic performance of males and females individually and compared them to members of the opposite sex, all due to caregiving. Caregivers can agree that providing care for another family member is enough of a struggle, and for those who do caregiving and attend college, the struggle is twice as difficult. Our goal is to find support and evidence that caregiving, indeed, has great effects not only on the academic performance of a college student but also on the social performance of a college student. We will survey college students to gather information that will support our hypotheses. One anticipated finding from the theoretical backgrounds is that caregiving doesn’t only affect a college student academically but also mentally and socially.

Priyadharshiny Sandanapitchai, Psychology
Raghavan Faculty, Psychology

Exploring Resilience in a Multinational Sample of Trauma Survivors

Research indicates that 89.7% of adults in the United States experience at least one traumatic event over the course of their lifetimes (Kilpatrick et al., 2013). Despite high exposure rates, the prevalence of PTSD in US population is only 6.8% (Gradus, 2013), which suggests varied response trajectories to trauma. Research has often focused on negative consequences of trauma including symptoms of depression, anxiety, sleep disturbances, anhedonia and persistent guilt (Fernandez et al., 2013). However, there is a growing body of research focusing on healthy adaptations or resilience. Recent research describes resilience to trauma as a dynamic process involving culturally-dependent adaptations. In spite of acknowledging the role of cultural variables, there are few empirical examinations of resilience in diverse samples. The present study explores resilience in a multinational sample of adult trauma survivors. Participants were recruited online using the Amazon Mechanical Turk software. The researchers specifically sought participants from the United States as well as non-Western countries to complete a battery of assessments including multiple surveys regarding trauma, resilience, ethnic identity, spirituality, and clinical symptoms. Results revealed statistically significant differences in manifestations of resilience across ethnic groups, suggesting that culture-specific concerns may be contributing to resilience scores. Implications are discussed.

Thomas Savoie, Business Honors Track, Professional Sales

What Factors are Preventing College Students from Saving for the Future?

The idea for this study developed from a curiosity towards how college students viewed their financial futures post-graduation, in particular, their ability to save in order to meet financial landmarks later in life. In order to gain a better understanding of how these students perceive their ability to save post-graduation, this study will utilize a questionnaire, distributed both in-person and electronically, to a sample of roughly 100 current college students, whose racial backgrounds mimic that of the state of New Jersey. The survey is composed of four sections: (a) College Debt, (b) Parents’ Financial Understanding, (c) Student’s Financial Understanding, and (d) Demographics. In recent years, much has been made of the ever increasing levels of college debt that students are taking on in order to complete their undergraduate studies. The purpose of the College Debt section is to gain insight into how this debt is affecting students’ perception of their financial futures. Literature on the topic has described the impact that parents have as financial educators. The Parents’ Financial Understanding section is intended to gain a perception for a student’s family’s level of financial education. Additionally, it will attempt to determine how effectively the family has imparted this knowledge to their children. Ultimately, the goal of this section is to determine if financially educated parents have a tangible effect on how students perceive their post-graduation financial situations. Finally, Student’s Financial Understanding will be used to evaluate participants’ level of financial comprehension, as well as the impact this knowledge has on their perception of their financial futures. We expect all of our hypotheses to be supported through statistical analysis.
Jackie Scordo, Business Honors Track, Accounting & Law

Factors Affecting Millennial Retention in the Workplace

Millennials (ages 18-34) are leaving the workplace more than any other generation (Kurian, et al. 2017). In a Deloitte Millennial Survey conducted in 2016, it was found that by the end of 2020, two of every three millennial respondents would have hoped to move on from his or her current employer. These findings represent the serious challenge of retaining millennials in the workplace, especially in the market of the United States, where millennials are the largest segment of the workforce (Kurian, et al. 2017). The goal of this research is to determine if four factors: (1) values, (2) leadership, (3) support available, and (4) making a difference affect millennial retention. Quantitative data will be collected through surveys, which will be given directly to students at William Paterson University. The anticipated results of the research are that millennials are more willing to stay with an employer where similar values are shared, leadership and mentorship provided, and lastly, an opportunity to make a difference in the work they produce.

Reem Shair, Public Health


Faculty Sponsor: Aleksandar Kecojevic

An environmental assessment of tobacco use on WPU campus

Introduction: Tobacco-Free Campus Initiative (TFCI) is an initiative that aims to adopt and implement a 100% tobacco-free policy on William Paterson University (WPU) campus. An environmental scan is a visible assessment of campus environment to determine where tobacco products are present, used, disposed of on campus. The objective is to determine the locations on WPU campus where the tobacco use is prevalent.

Methods: We conducted the environmental scan on WPU campus. Data collectors spent 1 hour per session, twice per week for 8 weeks walking around campus and collecting data on signage, presence of tobacco users, ashtrays, and cigarette butts and paraphernalia at various spots on campus. Data analysis was conducted using geographical information system methods.

Results: We present data on “hot spots” on WPU campus where smoking occurs or smokers congregate, where cigarette butt litter is present, on presence and use of ashtrays, and presence of tobacco-free signage or lack thereof.

Conclusion: Environmental scans are a feasible, time-intensive method to measure tobacco use on WPU campus. Findings from this study may help WPU to develop an appropriate tobacco policy.

Support was provided by the American Cancer Society supported by CVS Health Foundation, Tobacco-Free Generation Campus Initiative (TFGCI).

Moetaz Shair, Business Honors Track, Economics, Finance, & Global Business

Effects of Corporate Scandals on the Stock Market

This study aims to determine whether scandals occurring in the stock market are affecting not just the market, but the potential and current investors as seen in the “spill-over” effect. This is a problem prevalent in the stock market which must be monitored to protect investors and to maintain faith in the stock market. By studying past scandals, we will be able to predict which type of scandal will have the longest lasting impact on the market and which scandal will only shortly affect the valuation of the company. By comparing past and present stock prices, finding the tipping point in which the scandal occurred would lead researchers and investors to determine when a future scandal would occur and whether to buy the stock while a scandal is currently unfolded. The main theory pertaining to the study is the theory of price. Supply and demand will largely affect the price of a company’s stock and it is because of this theory that the effects of the scandals are able to be studied. It is anticipated that the results of the study would show that scandals in the stock market have an enormous negative impact on the market and on the faith that investors put in the market.
Venkat Sharma, College of Science and Health

Value of Research in a Regional Comprehensive University as Part of Experiential Learning

“Joy may be inarticulate, but reflection is empty without understanding”. By P.W. Atkins

One of the most engaging enterprises of an academician in a regional comprehensive university is to facilitate student learning. I try to follow Einstein’s axiom, “Science should be made as simple as possible, but not simpler”. I consider myself lucky to be able to combine teaching and scholarship in the collaborations that I engage in with students seeking experiential learning as part of their undergraduate education. This intensive activity, although extremely demanding, is very satisfying. This is consistent with decades of research in identifying undergraduate research as a high impact practice in liberal education. The opportunities to work one-on-one with students, to share with them the excitement of novel scientific discovery and to engage them directly in the scientific enterprise are continual sources of joy for me. These activities are the backbone of the academic curriculum for there is no better way to learn science than by doing science. I am proud of the accomplishments of my numerous students, and am grateful to them for allowing me to mentor their introduction to scientific investigation. A good research experience has certainly shaped many students to be better students. I feel that my exposure to a diverse spectrum of students, with disparate interests and backgrounds, has greatly enriched my research / teaching experience.

Glen Sherman, Student Development

Moving from Wellness to Well-Being and the Center of Higher Education

The well-being of students, staff, and faculty as a thematic focus is a burgeoning idea at institutions of higher education across the country and internationally. This presentation and discussion, informed by research and a presentation at a recent national student affairs conference, will inform participants who may not yet have heard of this topic or focus on this area of practice, and support and assist those who are familiar with ideas about possibilities for further development, implementation, and integration on our campus. This presentation will present a brief history of the concept of wellness, the forerunner of well-being. Through this exploration, I will identify themes that move us beyond a narrow definition of wellness to a broader conception of well-being (one that includes, for example, critical thinking). We then look deeper into intellectual history to key concepts, for example from Aristotle’s Nichomachean Ethics, to expand the definition and meaning of well-being, both in terms of the individual and the community, in terms of personal development, institutions, social structures, and the polity. These dimensions of well-being lay essential foundations for a definition that translates to educational approaches taken and activities engaged in across institutions, not just within student affairs. Once this broader definition of well-being is established, we then explore the place of well-being in higher education, both from the student affairs (co-curricular), the academic affairs (curricular), and operational (human resources) points of view. After that, I would take questions and lead a discussion about these ideas and potential implications.

Erik Slump, Business Honors Track, Economics, Finance, & Global Business

Natural Disaster Prevention for New Jersey

The catastrophic hurricanes that hit the United States in late 2017 prove that the country is not prepared for natural disasters. The hurricanes that hit Texas, Louisiana, Florida, and Puerto Rico in late 2017 and left massive damage in the areas hit by the storms. Another example is the hurricane that hit New Jersey in 2012. Hurricane Sandy, which struck New Jersey and a majority of the states that run along the East Coast, destroyed, killed, and crippled the financial strength of the New Jersey’s and the coastline for years. The current system to prevent financial damage from natural disasters, floods, etc. is that people that live in flood zones pay for flood insurance in the event of a natural disaster. This often is not enough for the state-wide problem that natural disasters leave behind. The insurance system also focuses on the aftermath rather than to try and work to decrease the level of devastation by the storm. The proposal for financial preparedness is for every home owner, renter, etc. in New Jersey to pay a small amount of money each year in order to have financial, technological, and infrastructural preparedness for another unpredictable natural disaster.
Alexandrea Soden, Independent Honors Track, Nursing

A Systematic Review: Comparison of Full-Term Vaginal and Cesarean Birth Outcomes

The rates of cesarean births have been on the rise as more mothers request a cesarean delivery before trying for a vaginal delivery. The rise in cesarean births raises the question: are there any significant differences in health among children born vaginally compared to those born via cesarean section? To address this question, a systematic review of the literature was conducted using Cochrane Library, CINAHL, and Medline (US National Library of Medicine). The articles are being reviewed for common findings. The outcome of this research may be beneficial to labor and delivery nurses, as they work closely with physicians and families to plan the care for a pregnant woman as she labors to birth her baby. Nurses must advocate for their patients and knowing the information found in this literature review may help nurses provide better care for both mom and baby.

Alexandrina Sorokina, Environmental Science


Analysis of Non-Point Source Pollution of Oldham Pond

Non-point sources of pollution are among the largest contributors of pollutants entering rivers, ponds, and lakes. These pollutants come from urban areas as the result of water run-off, which carries pollutants into bodies of water where they accumulate over time. An analysis of Oldham pond, located in Haledon, NJ, was carried out to determine the effects of the local urban area on the body of water. The water quality of Oldham pond could be indicative of the overall quality of water bodies in the Hackensack-Passaic watershed, located near urban developments. Pollutants from non-point sources may include but are not limited to excess nutrients, heavy metals, organics, and sediments. To understand the parameters of the ecosystem, weather and temperature data was gathered from a station located on site. To test for the presence of pollutants, water was collected and tested from eight locations, prior to and following a rain event. Water was tested for the presence of Zn as well as pH, total P, turbidity, conductivity, temperature and dissolved O2. Sediment from Oldham ponds’ five locations was collected and tested for particle size (sieve, microscopic analysis), X-ray diffraction, Ph, total P content, and percent composition of inorganic material. After data analysis, it was concluded that non-point pollution entering Oldham pond is not critical and does not significantly affect the overall health of the ecosystem. Further study of the pond is necessary to state unequivocally that pollution from urban developments and practices is non-critical and the ecosystem is indeed not afflicted.

Sara Steinel, Computer Science

Faculty Sponsors: Cyril S. Ku, Computer Science, Corey H. Basch, Public Health, Thomas J. Marlowe, Seton Hall University, and Ana Ocampo, UPS

A Knowledge Discovery Approach to Mental Health Problems in New York City: Phase One

This project is an inter-disciplinary research effort between the Department of Computer Science and the Department of Public Health at William Paterson University, in collaboration with the Mathematics & Computer Science Department at Seton Hall University. We have established a data repository of NYC YRBS (New York City, Youth Risk Behavior Survey) data from CDC (Centers for Disease Control and Prevention) using a MySQL database. This research uses the knowledge discovery approach to find hidden relationships, and for anomaly detection and trend prediction on the NYC YRBS data, focusing on mental health problems. This presentation specifies our data mining environment which includes various data mining and machine learning algorithms in the R programming language (R Studio) in a client/server architecture. Our efforts on the ETL (Extraction, Transformation, and Loading) process will be highlighted; the future plan (Phase 2) of this project will be described as well.

Support was provided by the Assigned Release Time for Research Program (ART) and the Student Research Fund of the College of Science and Health.
Janis Strasser, Elementary & Early Childhood

Big Questions for Young Minds: Extending Children’s Thinking

This presentation will provide an overview of the new NAEC bestselling book for early childhood teachers. Rooted in Bloom’s Taxonomy, and focused on supporting professionals that work in preschool and primary grade settings, the book teaches how to meet children at their individual developmental levels and ask questions that scaffold language and learning. An overview of the 6 levels of questions will be provided as well as examples of the types of questions that encourage young children to think deeply during their daily activities, routines and transitions, during read-alouds, morning meetings, and more. The book was written based on over 40 years of experience as an early childhood teacher, teacher educator, and researcher.

Bogong Su, Computer Science

Erh-Wen Hu, Computer Science, Jian Wang, Ericsson, Canada

Software Performance Prediction at Source Level

Performance prediction is critical in embedded system design for reducing the turnaround time of software. Using simulation to measure the performance of the whole source code is often too slow, particularly after the modification of the source code due to changes in problem specification. In this paper we present a comprehensive method that combines analytical modeling and statistical approach to predicting the performance of application software at source code level. We take samples from EEMBC and SMV benchmarks and gather the static attributes from the source code of those samples as our learning set. To determine the effectiveness of our new approach, we select several functions from PHY Benchmark as our testing set. We then apply multiple linear regression technique enhanced with the inclusion of new approaches by using the popular statistical tool SPSS23 to predict the performance of these functions. Comparing our predicted results with the actual measured values, the outcome is promising as the average relative error is within 20%.

Support was provided by the WPU Assigned Release Time for Research (ART).

Tehreem Tahir, Biology Honors Track, Biology

Creating an Axenic Culture of the Toxic Dinoflagellate Karenia brevis, and Comparing its Growth Rate and Brevetoxin Production to Xenic Cultures of “K. brevis”

Karenia brevis is responsible for harmful algal blooms (red tides) around Florida and in the Gulf of Mexico. K. brevis produces brevetoxins, which are potent neurotoxins that harm marine life and cause toxic shellfish poisoning in humans. Bacteria co-exist alongside K. brevis in the marine ecosystem and numerous bacteria were captured along with the K. brevis when isolates were taken from the ocean, and have continued to be propagated in laboratory cultures, making them a model system for studying interactions between the bacteria and K. brevis in a controlled setting. Our overarching goal is to understand potential roles for the bacteria in the growth, survival, and brevetoxin production of K. brevis. In this study, I am determining how K. brevis growth rate and brevetoxin production is affected by the removal of bacteria from the cultures. Cultures were treated with antibiotics to kill resident bacteria, and K. brevis growth rate and brevetoxin production are measured by cell count and an immunoassay ELISA, respectively.

Melanie Tanis, Nursing Honors Track, Nursing

Knowledge & Attitudes of Nurses Regarding Breastfeeding in Relation to a Mother’s Decision to Breastfeed Exclusively: A Systematic Review of the Literature

Breastfeeding has been found to have many health benefits for both mother and infant. Despite this finding, the rates of breastfeeding in the United States remain low. Prior research has sought to determine the attitudes of nurses toward breastfeeding and the knowledge they have of breastfeeding, and whether or not these attitudes
and the knowledge nurses hold have an effect on the decision of mothers to breastfeed. This systematic review seeks to compile research on this topic to determine what collective findings exist in the literature. Twenty studies were identified and examined. These studies have been entered into a chart in order to easily analyze their methods, results, limitations, and conclusions. Using this chart, overall themes were determined to make conclusions based on the collective work of the individual articles.

Support was provided by the Department of Nursing.

**Morgan Taylor, Performing & Literary Arts Honors Track, Art**

*Monster Hunter Game*

As the video game industry grew, the general public came to believe that a team of professionals is needed to create games. The boom of the indie market in the 2000s is the modern game designer’s response to that assumption. Like many before me, I have dreamed of making video games to be played by the public. I have used this project to explore one of the simplest mechanics in games: choice. Over the past year, I have designed assets, written a story, created environments, and coded a simple game that gives the audience the ability to choose their own adventure. I came into this project with no coding experience of any sort, and no idea how to properly make a video game. I can now say with certainty that anyone with the dedication to the medium can make their own game.

**Janella Mae Tenorio, Nursing Honors Track, Nursing**

*Students’ Attitudes Toward Older Adults: A Systematic Review*

The number of adults aged 65 and over in the United States is expected to almost double from 12% to 20% in the next 20 years (King, Roberts, & Bowers, 2013). Older adults comprise a majority of health care consumers, straining the health care system with new demands. However, less than 1% of nurses are certified in geriatrics (Berman et al., 2005); there is an insufficient number of nurses interested in working with older adults. This systematic review examined what current literature states regarding undergraduate nursing students’ attitudes toward older adults and their preferences for working with them. The purpose of this study was to determine how gerontological nursing can be promoted among undergraduate nursing students. Findings showed that students’ attitudes toward older adults can be heavily influenced by education. The results of this study can be used to develop interventions that increase students’ interest in geriatric nursing upon graduation.

Support was provided by the Department of Nursing.

**Billy Tsang, Psychology**

*Arousal during stressful task completion linked to state anxiety in female but not male emerging adults*

Introduction. Females are twice as likely to be affected by Anxiety Disorders as males (Craske, 2003). Reasons for this gender difference may have a biological basis. For instance, greater stress response, as indicated by peak cortisol, is found in females (Duchesne & Pruessner, 2013). There are few tests of gender differences in associations of arousal, executive attention, emotion regulation/anxiety, and results are mixed. Arousal, as measured by heart rate variability (HRV), has been found to be negatively correlated with executive attention across genders (Duschek, 2015). Associations between arousal and emotion regulation/anxiety, on the other hand, are sometimes (Smith et al., 2011) but not always (Brosschot et al., 2007; Pieper et al., 2007) found to be negatively correlated in females only. It is important to establish whether males and females differ in levels of arousal and executive attention as this may suggest a vulnerability to maladaptive anxiety (e.g., Sass et al., 2010; Smith et al., 2011).

Using the Neurovisceral Integration Model as a frame, the current study sought to test associations between arousal, state anxiety, and executive attention. Gender differences in associations were of particular interest as were gender differences in level of arousal, executive attention and anxiety. We hypothesized females would
report greater arousal, executive attention and state anxiety than males. Further, relationships among these variables will be stronger among females than males.

Methods

Participants & Procedures Data from 50 emerging adults (n=36 females and n=14 males) was collected. The computerized Stroop Task (Stroop, 1935; Keilp, Sackeim, & Mann, 2005) was used to induce stress (Zhao & Barreto, 2006). Prior to the Stroop Task, we assessed baseline cardiovascular functioning (5 minutes recorded prior to initiation of the stressor task). To measure cardiovascular functioning, electrodes were placed on both shoulders and the lower left quadrant of the subject. PowerLab/LabChart Version 8.0 hard- and software (AD Instruments Inc., Colorado Springs, CO) was used to collect, amplify, condition, and digitize the analog electrocardiogram (ECG) signal for the duration of the study. Data were acquired at a rate of 1,000 samples per second. Participants remained seated throughout the collection of cardiovascular data. Approval for the study was granted by the local Institutional Review Board. Participants gave informed consent prior to completing the study and received course research credit or compensation in exchange for their participation.

Measures

Arousal: Electrocardiogram (ECG) recordings collected during the Stroop were processed using Spectral analysis and Fast Fourier Transformations in LabChart. The signal was transformed into the frequency-domain and decomposed into its high (0.15 Hz - 0.4 Hz) and low (0.04 Hz - 0.15 Hz) constituent frequencies, which represent the activity of the parasympathetic (PNS) and sympathetic nervous system (SNS), respectively. These frequency-domain metrics were calculated for the 2 consecutive segments that comprised the baseline and Stroop to understand response to stress. To correct for skewed distributions, all high frequency (HF)-domain metrics were log (ln) transformed prior to inclusion in analyses. The percentage decrease in HF heart rate variability (HRV) during the Stroop compared to baseline, the standardized against baseline change in ln HF HRV, was the primary outcome measure of arousal for this study. These procedures of preparing and transforming the data for analysis and the interpretation of the HF HRV metric as an index of the PNS is consistent with current standards (Task Force of the European Society of Cardiology, 1996).

Executive Attention: In addition to being the laboratory stressor, the Stroop Test was also used to measure executive attention. Ninety incongruent trials, where incongruently colored words were presented and respondents name the color of the ink (i.e., the word “blue” printed in red ink) and 45 congruent trials, in which colored ‘X’’s are presented and respondents name the ink color, were presented. There was an inter-trial interval of 50 milliseconds and a break between blocks.

The percentage increase in median reaction time between incongruent and congruent blocks, the interference effect, was the primary outcome measure of executive attention from this task for this study.

Self-Reported Anxiety: The 9-item Profile of Mood States-2nd Edition, Tension-Anxiety subscale (POMS; McNair et al., 1971, 1992)) was administered at baseline and immediately following the stress task. The change in anxiety from baseline to post-task was the anxiety measure in this study. In our sample, reliability was good (Chronbach’s α=0.80 at baseline, .85 after Stroop).

Statistical Analysis: Statistical analysis was performed using SAS, Version 9.4 (SAS Institute Inc., Cary, NC). T-tests were used to test for differences in the levels of arousal, executive attention, and anxiety in females and males. Pearson Product-Moment correlation coefficients were computed to examine the associations of arousal, executive attention and anxiety separately for males and females. R-to-z transformations were used to test for gender differences in magnitude of associations.

Results. The standardized change in ln HF HRV, executive attention, and self-reported anxiety did not differ between males and females (ts<1). In females only, anxiety was associated with standardized change in ln HF HRV (r=.44, p=.01) and the interference effect (r=.41, p=.01). The magnitude of association was only significantly greater for females compared to males for the association between standardized change in ln HF HRV and anxiety.

Discussion. In contrast with our hypotheses, arousal, executive attention, and anxiety did not differ by gender. The association between arousal and anxiety, however, was stronger for females than males, as hypothesized. It
is noteworthy that greater arousal in stressful situations is associated with better self-regulatory capacity (Appelhans, 2006; Babcock, 2005). It could be that the found relationships between subjective and physiological reactivity in females suggest a specific vulnerability for females for anxiety. Future studies could test differences in arousal, executive attention, and state anxiety and their associations between psychiatric and healthy controls to test for biomarkers of maladaptive anxiety and whether biomarkers are stable by gender.

Abigail Urena, Public Health


Use of campus-wide events and social media to support Tobacco-Free Campus Initiative at WPU

Introduction: Previous research suggests that campus-wide events and social media are a powerful addition to the health communication. New forms of communication, i.e. social media, are more likely to speak to a younger generation. The objective of this study was to understand how campus-wide events and social media could be harnessed to support the 100% Tobacco-Free Campus Policy (TFCP) initiative at WPU.

Methods: Initial assessment included determining dates and events appropriate to promote TFCP initiative. We also inquired to determine what forms of social media are popular among students.

Results: It was determined that 2 events represent an opportunity to promote awareness of TFCP initiative: Great American Smokeout Day on November 16th and SGA Health Fair on March 5th. Tables were set in Student Center, and included merchandise distribution to students. Three social media sites: Facebook, Twitter, and Instagram were created and used to actively promote the TFCP initiative. Social media posts were developed around the policy goals with the aim to build followers and supporters. We used the social media to post one or two posts per day about upcoming events, spread talking points and discuss the value of a tobacco-free campus. All social media platforms kept students informed about issues related to the TFCP campaign.

Conclusions: When creating awareness about TFCP initiative, it is important to consider social media as part of media campaign. While these represent a great way to engage students in policy campaign, it is also important to use campus events for promoting the initiative.

Support was provided by the American Cancer Society supported by CVS Health Foundation, Tobacco-Free Generation Campus Initiative (TFGCI).

Erika Ureta, Humanities Honors Track, Biology

"Hi, Yank!" Soldier Shows and Troop Morale in WWII

My study analyzes the impact of a collection of musical plays called Blueprint Specials that the US War Department commissioned to raise soldier morale at the front during World War II. The Morale Branch of the Army needed an alternative method to entertain combat troops without putting professional performers at risk. The plays could be performed by and for ordinary US servicemen, packaged with detailed instructions (blueprints) for costumes, props, staging and musical accompaniment. Analysis of the plays’ contents reveals the plays’ characterizations, plots, and staging reveals they were imperfect and did not effectively relate to soldiers. The plays failed in representing the reality that soldiers faced. These weaknesses may explain why they are now long forgotten. The history of these works reminds us of the difficulties in maintaining high morale in wartime and the enduring psychological and emotional toll of war on those who serve.

Support was provided by the Department of Biology.
Miryam Wahrman, Biology

Amanda Nowakowski, Nursing

**Differential adherence of bacteria to microfiber and scrubs**

Research has shown that clothing and other fabrics may carry and transmit microbes that increase risk for hospital acquired infections in patients. We studied two types of fabrics, hospital scrubs (polyester/cotton) and microfiber, comparing adherence of three bacterial strains on threads from those materials. Threads were decontaminated then exposed to E. coli, B. subtilis or S. epidermidis either by dipping or incubating for 30 minutes in liquid bacterial cultures. Samples were fixed using either heat or Spray-cyte fixative. Threads were gram stained, and observed at 1,000x magnification. Twenty-five fields containing threads that spanned the microscope field were randomly chosen for each experimental condition. The number of adherent bacterial cells were counted (as number of cells per 185 micron length of thread). Twenty-five (cells/thread) counts were completed for each of 24 conditions (600 counts total), namely, microfiber vs. scrubs, exposed to three bacterial strains (E. coli, S. epidermidis and B. subtilis), for two time periods (30 minutes and “dip”), utilizing two fixation methods (Spray-cyte and heat). Data were analyzed using the unpaired t-test. Results show that in all 12 comparisons of scrubs and microfiber, scrubs fibers harbored more bacteria than microfiber threads. The difference was extremely statistically significant (p<.001) in 9 comparisons and statistically significant (p<.05) in two more conditions. In the one condition that was not statistically significant (threads dipped into S. epidermidis culture, fixed with Spray-cyte) scrubs still exceeded microfiber in bacterial cell numbers. Our data suggest that scrubs may pick up and transfer significantly more microbes than microfiber material, which leads us to recommend that hospital attire incorporate microfiber zones in the cuffs, pockets, and breast area of hospital uniforms, regions that are most likely to be touched by medical staff or come into contact with patients.

Support was provided by the WPU Assigned Release Time for Research (ART).

Lisa Warner, Early Childhood and Elementary Education

Roberta Schorr, Rutgers University, Newark, Gerald Goldin, Rutgers University, New Brunswick

**Analyzing Prospective Teachers’ Motivating Desires During Mathematical Problem Solving**

Earlier research with younger students finds considerable diversity in the in-the-moment motivating desires that occur during mathematical problem solving. These evoke patterns of behavior, affect, and social interactions. This study uses survey, individual interview, and focus group techniques to explore prospective K-12 teachers’ motivating desires, as they work in groups to solve mathematical problems, in university methods courses. Preliminary findings confirm various motivating desires previously identified and uncover the existence of additional desires.

Support was provided by the WPU Assigned Release Time for Research Program (ART).

Mahmoud Watad, Marketing & Management Sciences Department

Lezlie Dias, World Business Lenders

**A comparative study linking innovation with economic development of three countries: Belgium, Portugal, and Tunisia**

Knowledge, technology, and innovation are essential factors that influence the economic development of countries. The objective of this paper is to examine the relationship between innovation performance and economic growth in three countries: Belgium, Portugal, and Tunisia. The results reveal that stability of political and regulatory institutions is a key contributor to innovation performance. In addition, there is a significant positive relationship between GDP per capita and the stability of the political and regulatory environments of the country. Factors such as research and development, knowledge workers, innovation linkages, and knowledge absorption are the most dominant factors for advancing innovative infrastructure.
Support was provided by the 2017 Cotsakos College of Business Business Policy and Practice Research Forum (BPPRF) grant program.

**Martin Williams, Office of Sponsored Programs**

*The Research Development Strategy for Improving Success in Receiving Grants and Contracts*

The term “Research Development” encompasses a set of strategic, proactive, catalytic, and capacity-building activities designed to facilitate individual and teams of faculty and staff as well as their institution in attracting extramural research funding, creating relationships, and developing and implementing strategies that increase individual and institutional competitiveness. The term was coined at larger, research oriented institutions where research is their primary concern. Here at William Paterson, the Office of Sponsored Programs apply this strategy to all types of projects. "Research Development" is built around four pillars: Strategic Advancement, Communication, Enhancement of Collaborations, and Proposal Support. This presentation will concern the OSP’s current efforts to not only make this the leading edge of what we do to support new ideas and proposals but to infuse this perspective across all our activities.

**Erica Wu, Nursing Honors Track, Nursing**

*The Effects of Pet Therapy on Reducing Stress in College Students: A Systematic Review*

Stress affects all college students and majority of college students are overwhelmingly stressed, which leads to anxiety and depression. This can increase the rate of students going into the hospital for somatic symptoms such as stomachaches, fatigue, GI issues, etc. Pet therapy has been identified as beneficial in terms of decreasing stress and anxiety. This systematic review identified research studies that examined the effects of pet therapy on reducing stress in students. The purpose of the study was to examine the state of the science of a non-pharmacological treatment that nurses can use to decrease stress in college students. Nine studies were examined and analyzed for common themes. The outcomes showed that pet therapy is beneficial as it can lower cortisol levels and decrease blood pressure. Pet therapy be another option to students who are seeking help to maintain stress with a treatment that does not require the need for medication. Positive consequences of pet therapy include lowered anxiety, increased socialization and comfort, and overall less physical pain. Nurses can utilize this information to help clients recover mentally and improve cardiovascular health.

Support was provided by the Department of Nursing.

**Whitney Wu, Performing & Literary Arts Honors Track, Communication**

*A Series of Short Plays Regarding Depression and Suicide*

Whitney Wu has completed five short plays. All of them touch on the topics of depression, suicide, or self-harm and how people who suffer with these problems interact with other people, including a parent, a friend, a significant other, and even a complete stranger. One in four college aged students suffer from some sort of diagnosable mental illness, but it remains a taboo topic for many. By writing these plays, Whitney has found a way to talk about these problems without feeling uncomfortable. This project was supervised by Dr. Philip Cioffari of the English Department.

**Yalan Xing, Chemistry**

*Development and Applications of Alkyne Di-functionalization Methodology*

Regioselective functionalization of carbon-carbon multiple bonds is of prime importance for the synthesis of variety of organic compounds including bio-active molecules. We recently developed an Au (III)-catalyzed synthesis of -halomethyl ketones from terminal alkynes. This approach features excellent functional group compatibility and good yield for both aromatic and aliphatic terminal alkynes. The resulting -halomethyl...
ketones were used to prepare heterocyclic indolizine structures which exhibit interesting biological activities. Currently, we are testing the anti-bacterial activates of the heterocyclic indolizine compounds study the medicinal chemistry structure and activity relationships. The power of the diverse functionalization of alkynes is that it opens a door between alkyne chemistry and carbonyl chemistry, and these multicomponent, tandem approaches allow the efficient access to structurally interesting and bioactive agents.

Support was provided by the Center for Research - College of Science and Health.

Lydia York, Philosophy

*Online Roleplaying for Democracy and Ethics: Early Best Practice Indicators*

Role playing activities correlate positively to student engagement and sense of community in face-to-face classrooms, but how do they work online? Students in Spring 2018 Liberal Studies Colloquium Online participated in role playing games as a method for building empathy for diverse views and skills of collaborative debate related to the course theme “Teaching for Democracy.” EthicsGame.com is an online platform that offers a repeatable model for ethical decision-making by role playing case studies as a single user. Reacting to the Past is face-to-face interactive role playing debate model experimentally adapted for teaching online. Using student responses and faculty observations, this paper will compare a single-user to a multi-player game, and present early best practices for adapting an immersive face-to-face method to asynchronous online environments.

Sara Zammit, Cognitive Science Honors Track, Communication Disorders

*Anxiety and Achievement: Does Anxiety Have an Impact on Performance in College Students?*

Over 40% of college students list anxiety – the feeling of worry, uneasiness, or nervousness – as their top concern (APA 2011). With the prevalence of anxiety amongst the college population so high, the consequence it may have on academic performance is crucial. This research was conducted to better understand the relationship between anxiety and academic performance. In experiment 1, we measured participant’s anxiety levels before and after playing the anxiety-inducing song “Intermission” by Blur. This established exactly how much anxiety the song elicits. In experiment 2, participants completed a choice reaction time test both with and without the anxiety-inducing song playing in the background in order to test the hypothesis that anxiety decreases both choice accuracy and decision speed.

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Complete Schedule, April 2018

See details for each program: www.wpunj.edu/explorations

April 10
Interdisciplinary Poster Sessions 12:30 to 1:45, Science Hall Breezeway

April 12
Interdisciplinary Poster Sessions 12:30 to 1:45, UC Ballrooms B&C
College of Education 12:30 to 2:30, UC Student Center 216
Cheng Library Authors Reception and OSP Recognition Awards 3:30 to 5:00, UC Ballroom A

April 13
Paterson Metropolitan Region Research Center Atrium Auditorium, 10:00 to 5:00

April 14
12th Annual Undergraduate Research Symposium UC Ballrooms, 8:00 to 5:30

April 17
Honors Research Week Presentations 9:00 to 4:00, UC 168A&B, and 7:00 to 9:00, Cheng Auditorium
Technology Across the Curriculum 11:00 to 12:15, UC 171A&B
College of Science and Health 11:00 to 3:15, UC Ballroom A
Interdisciplinary Presentations #1 2:00 to 3:15, UC 171A&B
Cotsakos College of Business 11:00 to 1:45, Valley Rd Auditorium

April 18
Honors Research Week Presentations 12:30 to 4:30, UC 168A&B
Interdisciplinary Presentations #2 11:00 to 12:15, UC 171A&B
Sonic Divide, a film 12:30, Cheng Library Auditorium

April 19
Honors Research Week Presentations 9:00 to 3:00, UC 168A&B
Interdisciplinary Presentations #3 11:00 to 12:15, UC 171A&B
College of Arts and Communication 12:30 to 1:45, UC 171A&B
Interdisciplinary Presentations #4 12:30 to 1:45, UC Student Center 216
Office of Sponsored Programs 2:00 to 3:15, UC 171A&B
College of Humanities and Social Sciences 2:00 to 3:30, Atrium 126