ROCKY MOUNTAIN COLLEGE

Rocky Mountain College presents

THE STUDENT SYMPOSIUM

FEATURING SCHOLARLY WORKS FROM STUDENTS ACROSS CAMPUS, SHOWCASING THEIR WORK AS SHORT LECTURES, POSTERS, DEMONSTRATIONS, OR EXHIBITS

MARCH 29, 2023

POSTER
10:30 am to 12:30 pm
Fraley Lounge

ORAL
1:00 pm to 4:00 pm
Losekamp Hall

STUDENT SYMPOSIUM PROGRAM

Poster Presentations:
10:30 am to 12:30 pm
Fraley Lounge

Oral Presentations:
1:00 pm to 4:00 pm
Losekamp Hall

01 - Alden Hall
02 - Anderson Hall
03 - Bair Family Student Center
04 - Bair Science Center
05 - Eaton Hall
06 - Ed Resource Center (Library)
07 - Fortin Education Center
08 - Herb Klindt Field (Football)
09 - Jorgenson Apts
10 - Losekamp Hall
11 - Morledge-Kimball Hall
12 - Prescott Hall
13 - Rimview Hall
14 - Aviation Hall
15 - Tech Hall
16 - Tyler Hall
17 - Wendy's Field (Soccer)
18 - Widenhouse Hall

TABLE OF CONTENTS

RMC STUDENT SYMPOSIUM

Poster Presentations:

The MCAS of Boeing 737 Max

Autopilot and the 737 MAX

Biology Capstone: Characterizing Viral Proteins Using Cell Culture

Characterization of a Novel Retroviral Protein

Characterization of a Retroviral Phosphodiesterase Gene using Cellular Approaches

UV Light and Oxygen Exposure as Variables in The Oxidation of Wine

Cuddling Cubs: An Occupational Therapy-Based Mother-Infant Playgroup

Colored Lenses and Their Effect on Balance

Effects of Caffeine on Fat Utilization During Moderate Intensity Aerobic Exercise

The Effects of Electrical Stimulation vs Active Recovery on Lowering Blood Lactate Levels

Effectiveness of Ultrasound Combination Therapy in Reducing Musculoskeletal Pain

The Effects of Interoception Based Interventions on Occupational Performance

Assessing the Health Needs and Available Resources of Montana Veterans: A CBPR Approach

Exploring the Health Benefits of Culturally Relevant OT Interventions With Native American Adolescents

Internships “Bear” Success

Older Adults and Organization Level Facilitators Utilizing and Implementing Digital Assistive Technology

Oral Presentations:

Polychlorinated Biphenyls (PCBs) by Microwave Extraction

Nitrates and Nitrites in Cured Meats

Snapping Turtle (Chelydra serpentina) Nesting Habitat on Prairie Streams in Montana

Tributaries and Drainages of the Upper Bighorn River, Montana: An assessment of flow and water quality

Efficacy of equine assisted therapy in the treatment of mental health disorders

A Comparative Analysis of the Impacts of Group vs Individual Housing on Equine Health

Cloning in the Equine Industry

Prognosis and Management of Common Injuries in the Equine Stifle

The Comparative Analysis of the Equine Forelimb Tendons Under Stress during Equine Endeavors

Stress in College Students

Social Media Impacts on Mental Health

Depression and Anxiety on Self-Isolation

Over-exercising and Its Impact on Eating Behavior

Mental Health Treatment Disparities: College Students with Rural Roots

The Power of Therapy Dogs: The Impact of Canine Intervention on Police Mental Health

The Effects of Sleep on the Formation of New Memories

Remote Sensing, Burn Severity, and Land Cover in the American West

ABSTRACTS

POSTER PRESENTATIONS

The MCAS of Boeing 737 Max

PRESENTER(S): Skecynyth Perlas

MENTOR: Seth Livengood

DEPARTMENT: Aviation

DESCRIPTION: The purpose of this study is to examine the Maneuver Characteristics Augmentation System (MCAS) of the Boeing 737 MAX that caused two major aviation accidents. After Boeing's fastest selling airplane was grounded by the Federal Aviation Administration for 21 months we will take a look at the changes Boeing has made in the system and determine its safety measures.

Autopilot and the 737 MAX

PRESENTER(S): Kyle Pederson, Lucas Michaelson

MENTOR: Seth Livengood

DEPARTMENT: Aviation

DESCRIPTION: Even when aviation was in its infancy, humanity has been trying to make flying easier and safer. We have come a long way since the first flight at Kitty Hawk. From hobbyists with wooden propellers to huge corporations and the modern jumbo jet, the industry has exploded into a primary means of transportation. In 2022, the industry transported 747 million passengers in the United States alone. One of the most important tools pilots have at their disposal is autopilot. It allows airlines to fly with less crew, less workload, and more situational awareness. Since the grounding of the Boeing 737 MAX due to the 346 casualties on Lion Air Flight 610 and Ethiopian Airlines Flight 302 in 2018 and 2019 respectively, some have questioned the safety of modern, sophisticated autopilot systems and the feasibility of fully automated aircraft.

Biology Capstone: Characterizing Viral Proteins Using Cell Culture

PRESENTER(S): Daphne Boyd, Dana Cebull, Miranda Furchner, Cassidy Litten, Beau Santistevan

MENTOR: Holly Basta

DEPARTMENT: Biology

DESCRIPTION: By characterizing viral proteins we can learn useful information for creating therapeutics, advancing basic science, and understanding disease processes. Student-proposed projects will investigate four genes from diverse viruses: Epstein Barr virus, encephalomyocarditis virus, vesicular stomatitis virus, and zebrafish endogenous retrovirus. Using cell culture and fluorescence microscopy, students will investigate the effects of their viral protein on a specific cellular process of their choice: apoptosis, the innate immune response, or cancer progression.

*All authors contributed equally to this work.

ABSTRACTS

POSTER PRESENTATIONS

Characterization of a Novel Retroviral Protein

PRESENTER(S): Cassidy Litten, Kailey Mortensen

MENTOR: Holly Basta

DEPARTMENT: Biology

DESCRIPTION: Retroviruses, because they integrate into their hosts' genomes, can become endogenous if they infect a germline cell. These endogenous retroviruses are passed down to the host's offspring. Previous studies have discovered a novel viral protein from zebrafish endogenous retrovirus (ZFERV) that most closely resembles a phosphodiesterase (PDE). PDEs found in other viruses are known to inhibit the RNase L pathway. This pathway is part of the cell's innate immune response. It is activated by 2-5 A, which is activated by the double-stranded RNA typical of a viral infection. This pathway inhibits the virus from replicating. To escape this immune response, viral PDEs cleave 2-5A so that RNAse L cannot be activated and the virus can therefore replicate. We predict that the novel ZFERV protein will act as a PDE and cleave 2-5A. We will investigate this by using cell culture techniques, transfection, western blot and fluorescence microscopy.

Characterization of a Retroviral Phosphodiesterase Gene using Cellular Approaches

PRESENTER(S): Bo Hakert

MENTOR: Holly Basta

DEPARTMENT: Biology

DESCRIPTION: Understanding the molecular mechanisms of viral infections is critical in the development of new therapeutic strategies. Certain viruses, including human pathogens like rotavirus and Middle Eastern respiratory virus, shut down the host's innate immune response by encoding a phosphodiesterase (PDE) protein. We predict a novel gene conserved among fish retroviruses acts as a viral PDE. Using molecular cloning, the potential PDE from zebrafish endogenous retrovirus (ZFERV) was ligated into a eukaryotic expression vector, fusing it with a green fluorescent protein (GFP). We predict that using transfection, fluorescence microscopy, western blot, immunoprecipitation, and mass spectrometry, we can identify cellular binding partners of the ZFERV predicted PDE.

ABSTRACTS

POSTER PRESENTATIONS

UV Light and Oxygen Exposure as Variables in The Oxidation of Wine

PRESENTER(S): Tyler Forseth

MENTOR: Ivy Fortmeyer

DEPARTMENT: Chemistry

DESCRIPTION: When wine is exposed to air, the ethanol inside oxidizes in a series of reactions that converts it into acetaldehyde, and then over a longer period of time that acetaldehyde is converted into acetic acid. It is hypothesized that exposure to light, especially UV light, as well as regular exposure to oxygen will speed up this process. This should change the color, flavor, aroma, and alcohol concentration of the wine over time. This work is tracking the rate of oxidation of wine when exposed to varying amounts of sunlight at ambient lab temperatures. The wine will also be regularly exposed to fresh air to replenish the oxygen in the bottle.

Cuddling Cubs: An Occupational Therapy-Based Mother-Infant Playgroup

PRESENTER(S): Theresa Tucker, Shalyn Lackey, Jane Armstrong, Madison Leidig, Taylor Williams

MENTOR: Johanna Thompson

DEPARTMENT: Occupational Therapy

DESCRIPTION: New motherhood is a time of significant occupational transition and adjustment that impacts mental health. Geographic location and other contextual factors can have a large effect on access to resources for mental health. There is a lack of research focused on the experiences of new mothers in Montana. This study aims to look at demographic factors and Montana mothers' experiences of transitioning to motherhood. The research questions guiding this study are: A) Is there a difference in anxiety levels of postpartum moms residing inside of Montana compared to postpartum moms residing outside of Montana? B) How are postpartum moms' experiences and mental health impacted by their new occupational roles and occupational transitions? The researchers will collect and analyze data using a convergent mixed-methods design. Findings from this study will be used to better understand the current mental health of new mothers in Montana and identify targets for occupational therapy interventions.

Colored Lenses and Their Effect on Balance

PRESENTER(S): Rendan Klein

MENTOR: Amanda Botnen

DEPARTMENT: Health and Human Performance

DESCRIPTION: Balance is one of the most important aspects of our everyday lives as well as many popular sports, yet not a lot is being done to try to help improve balance. Poor balance can lead to poor performance during play or injury. This study looks at different colored lenses and their effects on balance. Our eyes react to certain wavelengths of light differently, so will a certain color of the lens help to improve balance? I will test this using the BESS test against different colored lenses and see if one color has a positive or negative effect on balance.

ABSTRACTS

POSTER PRESENTATIONS

Effects of Caffeine on Fat Utilization During Moderate Intensity Aerobic Exercise

PRESENTER(S): Mason Browning, Dylan Beridon, Violet Carter, Sofia Brustia

MENTOR: Christopher Irvine

DEPARTMENT: Health and Human Performance

DESCRIPTION: The dietary supplement industry is worth nearly $353 billion. Many dietary supplements claim to enhance fat burning during exercise. One of the primary ingredients to promote fat loss is caffeine. Although certain doses of caffeine may increase fat burning properties, the amount of caffeine is greatly varied between supplements. Therefore it is important to assess varying doses of caffeine on fat burning properties during exercise. The purpose of this study is to examine the fat burning properties of 4 mg/ kg of caffeine during exercise. Participants will be required to perform two bouts of moderate intensity aerobic exercise on a motorized treadmill. During both bouts of exercise, fat utilization will be measured. 45-60 minutes prior to one of their bouts of exercise, caffeine will be consumed. The primary outcome of this study is to determine if caffeine increases the amount of fat burned during exercise.

The Effects of Electrical Stimulation vs Active Recovery on Lowering Blood Lactate Levels

PRESENTER(S): Ariana Virella

MENTOR: Christopher Irvine

DEPARTMENT: Health and Human Performance

DESCRIPTION: When competing in any sport, especially in elite sports, recovery plays a vital role in their career, day-to-day life, and training. When an athlete trains, at a high intensity there will be an increase in lactate levels. Lactate is associated with muscle fatigue, which can negatively affect the muscles' work capacity and contractile force. Therefore, it is imperative to assess methods of recovery to enhance lactate clearance. The two forms of recovery this study looked at were active recovery, passive recovery, and neuromuscular electrical stimulation. After performing a 30-second sprint test on a stationary bike, participants were randomly selected to either be in the control group, active recovery, or neuromuscular electrical stimulation group. Throughout each method, lactate levels were measured. The aim of this study was to examine what method of recovery was the most efficient at lowering blood lactate levels.

ABSTRACTS

POSTER PRESENTATIONS

Effectiveness of Ultrasound Combination Therapy in Reducing Musculoskeletal Pain

PRESENTER(S): Olivia Earling

MENTOR: Patrick Hughes

DEPARTMENT: Health and Human Performance

DESCRIPTION: This study was over the effect of combination therapy (ultrasound and electrical stimulation) compared to just using electrical stimulation as a pain control modality. In order to determine whether or not one was more effective than the other, two groups were formed, one group received combination therapy while the other group only received electrical stimulation. From there the groups would fill out two forms to track progress. The first out of the two forms being a series of pain scales, and the second being functional surveys. By utilizing both these surveys, a correlation should begin to form between the two variables. Ideally as pain decreases, functionality of the injured area should increase. Once this correlation is established, the researcher will be able to track which group made the most progress during the three week long study.

The Effects of Interoception Based Interventions on Occupational Performance

PRESENTER(S): Alexis Egan, Annika Holstrom, Joseph Losk, Anna Vivatson

MENTOR: Aimee Roberts

DEPARTMENT: Occupational Therapy

DESCRIPTION: Interoception is an emerging area of research due to its impact on physical, mental, and social health for children. Interoception is the ability to perceive and respond to one's internal senses. Examples of these senses include recognizing the need to use the toilet, feeling hungry, or anxious. Poor interoception can lead to difficulty regulating emotions and participating in occupations. The guiding question for this research study is: What is the relationship between interoception and occupational participation? Utilizing a mixed methods design, quantitative data will be collected from modified versions of caregiver questionnaires and standardized evaluations. The qualitative portion will be collected from individual parent interviews and a focus group. Pre and post test data will be collected and analyzed to determine themes and participant outcomes. The findings of this study will be used to expand the supporting evidence behind interoceptive based interventions for occupational therapy.

ABSTRACTS

POSTER PRESENTATIONS

Assessing the Health Needs and Available Resources of Montana Veterans: A CBPR Approach

PRESENTER(S): Stacey Cuff, Andrew Simon, Kaila Mattera, Nicole Arguello, Gabrielle Tzin, Lauren Frieling

MENTOR: Amanda Carroll

DEPARTMENT: Occupational Therapy

DESCRIPTION: Veterans are more at risk to experience mental health disorders, post-traumatic stress, traumatic brain injuries, and other conditions associated with their time in service (Olenick et al., 2015). The purpose of this study is to assess the health needs of veterans in Yellowstone County, Montana, the county with the largest percentage of veterans in the state. The design of this study is a community based participatory health needs assessment. Multi and mixed methods and analyses will be used to collect data through the use of the SF 36 survey, focus groups, and participant observation from veterans (n=30), aged 18 and above, who receive healthcare services in Yellowstone County. Our findings will capture veterans' perspectives regarding their own health needs which will help to identify areas for client-centered occupational therapy interventions and resources for other health services.

Exploring the Health Benefits of Culturally Relevant OT Interventions With Native American Adolescents

PRESENTER(S): Eva Donnelson, Eden Gramm, Jennifer Mitchell, Taylor Peterson, Saydee Preston Miller

MENTOR: Twylla Kirchen

DEPARTMENT: Occupational Therapy

DESCRIPTION: Indigenous people suffer from the largest mental health, substance use, and physical health disparities of any other racial and ethnic group in the United States (American Psychiatric Association, 2010; Indian Health Services, 2016). This study aims to highlight the importance of empowering marginalized voices, decolonizing research, and providing culturally-relevant interventions for mental health treatments. The research questions guiding this study aim to explore how an occupation-based culturally relevant intervention impacts the health and well-being of Native American youth residing in a psychiatric residential treatment facility (PRTF). The research design includes a mixed methods approach to collect and analyze pre-and-post assessment data. The findings from this study will be used to promote cultural identity and occupational engagement of Native American youth in a PRTF setting and post-discharge.

ABSTRACTS

POSTER PRESENTATIONS

Internships “Bear” Success

PRESENTER(S): Kayanna Conroy, Elizabeth Hill, Haydn Driver, Brail Lipford, Morgan Eatman, Rhiannon Nez Varnrobinson, Dakota Watkins, Nicholas Williams

MENTOR: Barbara Vail

DEPARTMENT: Psychology

DESCRIPTION: The Rocky Mountain College psychology internship program serves as one of two capstone options for seniors in the psychology program. Placements for this program currently include The Yellowstone Boys and Girls Ranch, Youth Dynamics, The Montana Tribal Council, the RMC Golf Team, and The Women’s Prison. Opportunities for students to intern with various organizations highlight the many possible careers available in psychology. In addition, it is important to recognize that high quality mental services for citizens of all ages is vitally important. Many people, especially those who live and work in rural areas, feel mental wellness is an individual responsibility, and may be reluctant to seek help. Internship experiences allow students to relate the needs of the community to their own future educational and employment pursuits. Psychologically oriented internships also compel students approaching graduation to make the leap from textbook and coursework to the practical application of psychological principles.

Older Adults and Organization Level Facilitators Utilizing and Implementing Digital Assistive Technology

PRESENTER(S): Nolan Wandersee, Jessica Patterson, Katlyn Gugger, Mandy Bennett, Samuel Hilger

MENTOR: Philip Nordeck

DEPARTMENT: Rocky Mountain College’s Doctorate of Occupational Therapy

DESCRIPTION: The purpose of this research is to understand how older adults and organization level facilitators are utilizing and implementing digital assistive technology within Yellowstone County to promote occupational engagement. This could help improve understanding of how older adults might benefit from digital assistive technology. We will utilize semi-structured interviews, observations, and surveys in order to collect categorical thematic data from both the organization level facilitators and older adults. Research has shown implementation of digital assistive technology to be an effective intervention to address the lack of health resources needed to meet the needs of the aging populations throughout the country. Billings is a great example that still needs to be addressed. The research findings from this study will help to address the needs of older adults and organizational level facilitators in Yellowstone county and how digital assistive technology can promote occupational engagement.

ABSTRACTS

ORAL PRESENTATIONS

Polychlorinated Biphenyls (PCBs) by Microwave Extraction

PRESENTER(S): Oliver Robson

MENTOR: Ivy Fortmeyer

DEPARTMENT: Chemistry

DESCRIPTION: Polychlorinated Byphenyls (PCBs) have been used in many industrial applications from asbestos to jet fuel and from paint to transformer oil. However due to its relative toxicity, chemical stability, and ability to bioaccumulate there is a growing need to identify it in the environment. This report will briefly show how PCBs have historically been extracted and identified, then explain the process of developing a new method for the extraction of PCBs via microwave extraction, then lastly briefly explain how data from this new method is presented to governing bodies to make it compliant with regulation.

Nitrates and Nitrites in Cured Meats

PRESENTER(S): Eric Marshall

MENTOR: Ivy Fortmeyer

DEPARTMENT: Chemistry

DESCRIPTION: Curing meats has long been used as a method of preservation and results in a distinctive color and flavor many consumers have come to know well. In recent years concerns over the use of nitrites have risen due to their ability to form a potentially carcinogenic compound called a nitrosamine. In response, many companies have capitalized on the term “uncured” which allows them to market a product cured by natural flavorings, like celery salt, which are high in nitrates as opposed to a traditional direct nitrite addition. Using a method of extraction published by the Korean Food and Drug Administration, residual nitrite concentrations were examined. This same topic will be revisited by use of other experimental techniques to examine the differences between an “uncured” product and traditional cured ones.

ABSTRACTS

ORAL PRESENTATIONS

Snapping Turtle (Chelydra serpentina) Nesting Habitat on Prairie Streams in Montana

PRESENTER(S): Lauren Ryter

MENTOR: Kayhan Ostovar

DEPARTMENT: Environmental Science

DESCRIPTION: Snapping turtle nesting behavior has not been studied in Montana and little is known about their habitat use on prairie streams. From May to late-June timed visual surveys were conducted for reptile eggs. Ten “nesting aggregations” were identified. Nests with viable eggs were excavated to count and measure eggs and then reburied with a HOBO temperature logger. Sites were resurveyed in the fall to document hatching success or predation. Nests were mainly found in mixed substrate on southern facing slopes with an average of 23.6 degrees, located no more than 50 meters from the water. Daubenmire nest/random site comparisons indicated that nest site ground cover consisted of over 75% bare ground, while random sites had only 16% bare ground. Suitable nesting habitat at this creek seems limited and thus it is important that we help landowners understand the value of these sites and how to limit disturbance.

Tributaries and Drainages of the Upper Bighorn River, Montana: An Assessment of Flow and Water Quality

PRESENTER(S): Hunter Jackson

MENTOR: Kayhan Ostovar

DEPARTMENT: Environmental Science

DESCRIPTION: Analysis of two mile lines and two tributaries of the Bighorn River watershed were conducted from May to September (2022) for water quality and flow. Baseline samples were taken at each of the locations once per month. Additional sampling occurred 1-2 times per month for rain events (≥0.22 inches). The flow of the sites, Soap Creek (average = 24.07 cfs), Fischer’s Mile Line (average = 6.92 cfs), Rotten Grass Creek (average = 19.09 cfs), and Mallards Mile Line (average = 6.53 cfs) contributed small volumes to the Bighorn River (average = 2900 cfs). Phosphorus at all four sites had higher concentrations (average = 0.45 mg/L) than adjacent comparisons to the Bighorn River (average = 0.02 mg/L). Phosphorus was significantly different ($p < 0.05$) for three of the four sites when compared to the adjacent Bighorn River. Excess inorganic nutrients can lead to eutrophication and increases in algae biomass.

ABSTRACTS

ORAL PRESENTATIONS

Efficacy of Equine Assisted Therapy in the Treatment of Mental Health Disorders

PRESENTER(S): Olivia Evans

MENTOR: Amy Neuman

DEPARTMENT: Equestrian Studies

DESCRIPTION: In the past decade, mental health awareness has been pushed to the forefront of the public's eye. This has opened the discussion regarding the challenges facing those who struggle with negative mental health. This continuous evolution has resulted in an increase of diagnosed individuals suffering from mental health concerns, leading health professionals to seek out and improve therapy based options for diagnosed individuals. One available therapy option is equine assisted therapy, which is growing in popularity due to the intrinsic equine ability to emotionally connect and push individuals to grow. This paper addresses the qualitative and quantitative data found in the Eagala therapy model, which supports the perspective that equine therapy is an effective treatment for mental health.

A Comparative Analysis of the Impacts of Group vs Individual Housing on Equine Health

PRESENTER(S): Summer Peterson

MENTOR: Amy Neuman

DEPARTMENT: Equestrian Studies

DESCRIPTION: Equine housing methods differ among facilities, occasionally with little regard for their impact on the welfare of the horses. Studies regarding the impacts of different housing systems on the environment, equine physical and mental health, and equine behavior were compiled from online databases and reviewed. This research indicates both horses and the environment tend to fare better in group housing situations than in individual housing, with exceptions. This research informs management options for equine facilities in order to improve the well-being and longevity of horses and the environment.

ABSTRACTS

ORAL PRESENTATIONS

Cloning in the Equine Industry

PRESENTER(S): Isabella Velasco

MENTOR: Amy Neuman

DEPARTMENT: Equestrian Studies

DESCRIPTION: Cloning is the process of creating a replica of an organism. Cloning naturally occurs with simple organisms reproducing by asexual reproduction, or organisms can be cloned artificially by using genetic material from a donor to create a progeny. Artificial cloning of complex organisms dates back to the 1800s. Advancements in biotechnological practices have permitted the development of new cloning techniques, including somatic cell nuclear transfer (SCNT), which produces large numbers of cloned individuals. Successful cloning of various animal species, including equids, has proven cloning's potential for economic application. Cloning is controversial due to the unconventional nature of creating new life rather than using genetic material from favorable males and females to create offspring. Additionally, various ethical and eligibility concerns are fueling the debate on whether artificial cloning should be an industry-accepted reproductive practice.

Prognosis and Management of Common Injuries in the Equine Stifle

PRESENTER(S): Trissany Blackmore-Reichert

MENTOR: Amy Neuman

DEPARTMENT: Equestrian Studies

DESCRIPTION: Surveying soft tissue and bone injuries of the equine stifle, this paper describes the prognosis of the most common types of trauma in this joint. Despite the complexity of this high motion joint, the outcomes of these injuries are more favorable than catastrophic. Performing in depth diagnostic techniques and following a recommended treatment plan allows the majority of horses with these injuries to return to athletic work.

The Comparative Analysis of the Equine Forelimb Tendons Under Stress during Equine Endeavors

PRESENTER(S): Rebecca Kearns

MENTOR: Amy Neuman

DEPARTMENT: Equestrian Studies

DESCRIPTION: This analysis compares the stress exerted on equine forelimb tendons during the extreme disciplines of cutting and cross country. Load, the weight applied to the forelimb, is transferred to the tendons during specific movement in the highest competition of these two disciplines. The tendons that endure the most strain include the Deep Digital Flexor tendon, Superficial Digital Flexor Tendon, and Superficial Flexor Tendon. The predicted findings of this research are that vertical strain in the equine discipline cross country is more strenuous on the tendons compared to horizontal strain in the western discipline cutting.

ABSTRACTS

ORAL PRESENTATIONS

Stress in College Students

PRESENTER(S): Rylie Croaker

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: It is common for college students to experience a wide range of stressors, including credit hours, school work, athletics, jobs, and relationships, etc. Knowing the main stressors in a college student's daily life could decrease stress levels. The current study is designed to assess the relationship between involvement and stress level in students. It is hypothesized that the more involved the student is, the more stressed they become. Data collection is ongoing.

Social Media Impacts on Mental Health

PRESENTER(S): Cassidy Herman

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: The use of technology continues to grow around the world. Social media is an important part in the lives of many and allows for communication between friends and family. The increased use of social media can lead to exposure to both positive and negative interactions, which cause varying impacts on the viewers mental health. The purpose of this study is to see whether a person's time spent on social media has an impact on the person's current mental health and whether that impact is positive or negative.

Depression and Anxiety on Self-Isolation

PRESENTER(S): Jessica King

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: Self-isolation has become a part of our daily lives. Anxiety and depression have increased since COVID-19 because people have to isolate themselves from friends and family. Some people still struggle to be with large groups of people and would rather isolate, and as a result, experience increased depression and anxiety. The purpose of the current study is to survey students at Rocky Mountain College on their anxiety and depression and how it affects self-isolation. Data collection is ongoing.

ABSTRACTS

ORAL PRESENTATIONS

Over-Exercising and Its Impact on Eating Behavior

PRESENTER(S): Elizabeth Hill, Leon Doedtmann

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: There is less research about men's experiences with eating disorders than women's experiences. However, we know men struggle with distorted body image and engage in disordered eating. These struggles lead to over-exercising as a purging or coping mechanism. Further, research could help fitness professionals, counselors, and doctors tailor treatment plans to meet the unique needs of men. The current study was designed to assess the relationship between body image and over-exercise in Rocky Mountain College male student athletes. Data collection is ongoing.

Mental Health Treatment Disparities: College Students with Rural Roots

PRESENTER(S): Adelle Meissner, Kloie Thatcher

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: Mental illnesses, diagnoses, and treatments are becoming increasingly present in society today. Many studies have demonstrated lack of resources for mental illnesses, rural populations, and college students, but the literature lacks research into the three way interaction between these variables (Gunasekaran, et al., 2022; Reilly, 2021; Wong, et al., 2022) The aim of this study is to establish a positive correlation between hometown population size and seeking treatment for mental illnesses. This relationship will be established through the population of one's hometown, experience with previous or current mental illnesses, previous or current treatment for mental illnesses, and perceived stigma surrounding mental health. The research will be conducted on college students and rely on self-reported measures.

ABSTRACTS

ORAL PRESENTATIONS

The Power of Therapy Dogs: The Impact of Canine Intervention on Police Mental Health

PRESENTER(S): Kayla Wright

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: Canine Intervention is becoming an important part of aiding PTSD management, decreasing anxiety and helping reduce negative memories associated with traumatic experiences. Therapy dogs provide a unique psychological advantage in terms of empathy and unwavering support, offering a calming presence that can be beneficial for law enforcement responding to the stress associated with critical incidents. Some studies have shown that canine intervention can improve the overall mental health of police officers helping to reduce feelings of depression. In addition, these animals can help create a positive environment that can be beneficial for discussing sensitive topics and reducing the stigma of seeking help. The purpose of this current study is to correlate the benefit of therapy dogs to the better mental health of law enforcement. Data collection is ongoing.

The Effects of Sleep on the Formation of New Memories

PRESENTER(S): Jose Reyes

MENTOR: Jenny Reichert

DEPARTMENT: Psychology

DESCRIPTION: Sleep plays an important role in day to day activities, especially with learning and forming new memories or solidifying concepts. This is especially important in the lives of college students. Student athletes in particular are asked to balance their athletics, academics, and personal lives and a lack of sleep can adversely affect them. The purpose of this study is to demonstrate a relationship between sleep and memory formation in members of the Rocky Mountain College soccer teams. Data collection is ongoing.

ABSTRACTS

ORAL PRESENTATIONS

Remote Sensing, Burn Severity, and Land Cover in the American West

PRESENTER(S): Ty Reynolds, Ben DeVries, Calen Renner, Kalon Shelden, Andrew Slaughter

MENTOR: Luke Ward

DEPARTMENT: Geography

DESCRIPTION: Remote Sensing involves the use of sensors to gather information about an object or study area 'at a distance'. In the GPY 322 - Remote Sensing course at RMC, students learn to use computer software (ESRI's ArcPro) to analyze remotely sensed data from a variety of sources in order to explore, quantify, and communicate landscape change. This talk presents the findings of two remote sensing studies conducted by GPY 322 students. The first study involves the use of multispectral satellite (LandSat) imagery to calculate burn severity of the Holiday Farm Fire, which burned in Oregon's Willamette National Forest in 2020. The second involves the analysis of multiple remotely sensed datasets to support a land suitability study analysis for a local organization.

Rocky Mountain College

MISSION STATEMENT

Rocky Mountain College educates future leaders through liberal arts and professional programs that cultivate critical thinking, creative expression, ethical decision-making, informed citizenship, and professional excellence.

CORE THEMES

ACADEMIC EXCELLENCE

The College is committed to the liberal arts and sciences as the basis for all academic development and as the foundation of the student experience.

TRANSFORMATIONAL LEARNING

The College promotes the development of the whole person to maximize students' human and leadership potential.

SHARED RESPONSIBILITY & STEWARDSHIP

The College strives to engage in informed and ethical decsion-making throught the application of best practices as a means to promote organizational development and excellence.

Rocky Mountain College

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