

Symposium Schedule

Podium Session	Room	Theme	Presenters provide a 10 minute PowerPoint slide program with 5 minute Q & A.	Facilitator
9:45 – 11:00	209 PAC	The Environment Webinar Link	Griffen Molenberg - Abundance and Diversity of Bat Species in Unmanaged Forests and Restored Oak Savanna Ecosystems	Jennifer Peterson
			Gary Carter - Bird Diversity Abundance in Response to Oak Savanna Restoration	
			Quinton Casteel - Geographic Distribution of Pelage Color Variation in Raccoons	
			Emily Van Der Veer - Winter Habitat Selection of White-Tailed Deer (<i>Odocoileus virginianus</i>) in South Central Iowa	
9:45 – 11:00	319 PAC	Exercise Science Webinar Link	Katrina Estes - Working Memory in Female Athletes	Glenn Steimling
			Kathleen Niles - Variations in ACL Reconstruction Surgery with Graft	
			Najai Alexander - The Effects of Stress on Runners	
			Anai Hernandez - How Grafts on ACL Reconstruction Affect Women Soccer Player's Return to Play	
9:45 – 11:00	324 PAC	Biology Webinar Link	Alicia Jaquez - Effects of Exercise on Female, Student-Athlete's Depression	Janet Ewart
			Ashley Porter - Exercise and Its Effect On Stress & Vascular Health	
			Michelle Reyes - Comparison of Perceived Stress and Vital Signs on Athletes vs. Non-Athletes	
			Avery Rayos - Physiological Effects of Dairy Milk on Mice	
			Lexi Resa - Bomb Calorimetry and Accuracy of Nutrition Labels	
9:45 – 11:00	323 PAC	(If Needed) Webinar Link		Jessica Sisul
Poster Session 11:15 – 1:30	PAC Courts	Webinar Link	As many students as possible. There is room for 120+ posters physically distanced.	Jim North

Sociology

1. Preventative Techniques for Discriminatory Police Practices

Joshua Bell

In recent years, there has been a growing concern for personal safety with the rise of new social issues. However, police brutality and discrimination are being brought to a new light and becoming exposed for an abuse of power and complete lack of ethics. With the growing population of smartphone users, someone can very easily spot and provide evidence that police brutality and discrimination occur just by taking a video from their smartphone. Although this can happen, smartphones and video recording are not the issues, discriminatory practices conducted by the police are. Since social justice is a growing concern in the United States, it would be logical to not only protect minorities and parties that feel marginalized by law enforcement, but to ensure that the integrity of law enforcement officers goes unscathed so that police officers can effectively perform their duty of enforcing the law while the surrounding population feels safe, too. I propose implementing a preventative measure into the police system that will force integrity from law enforcement officers whilst also allowing them to safely practice their sole duty of upholding the law. This system would analyze demographic features of the local area and compare them to an officer's on-duty encounter record which would move up the chain of command where it would be dealt with if discriminatory patterns occur.

2. Trading Addictions: Opioid Addiction or MAT Treatment

Adyson Blom

Addiction is something in today's time that many people are trying to overcome, but what people don't see is the many different views that people get for being addicted to different substances. People are using pharmaceuticals to treat opioid addictions, but then are creating a new addiction to these pharmaceuticals. There are other treatments such as Medicated Assisted treatment or for people in prison there is methadone maintenance therapy. While exploring this study we will look at how the users public image changes on whether they are addicted to opioids or pharmaceuticals.

3. Social Media and Intimate Friendships

Haegen Boyer

Over the past decade the use of social media in youth and adults' lives have become increasing evident. Social media has become a tool, maybe even asset, in today's society. The manifest function being the creation of a platform where people create personal or community profiles for information to be shared, created, and discussed. The latent functions, on the other hand, have branched in many ways but with some focus on identity, conversation, sharing, presence, relationships, reputation, and groups. People not only look to share and create content but are creating an online identity to create a reputation for their self, find and manage friendship, connectedness, belonging, and social affirmations. As this tool has become an integral part of the social world, the research aims to explore the relationship between the use of social media and intimacy within friendship. Interviews were conducted through a convenience sample of 25 undergraduate students from the ages 18–25-year-old at William Penn University. Results finding that social media can lead to comparison, envy, and a search for validation. The more use of social media contributes to lower rates of intimacy.

4. Effectiveness of Educational Techniques to Stop Human Trafficking

Summer Cassidy

Human trafficking is one of the most significant problems around the world, this study serves as a purpose to show whether educational modes of deterrence directly correlate to less cases of human trafficking or not.

Individuals who listen to what is said through these modes of education will be at less of a risk to become a victim of human trafficking. The overall research method is availability/convenience sampling this technique used in order to gather the information needed because of such a large area of study. In conclusion in order to have the most positive outcome, education about global issues like this need to be more available for the population as a whole.

5. Challenging Masculinities

Bianca Castillo

Hegemonic masculinity is a concept that has been used in gender studies since the 1980s, it explains the power men have over women. This examination looks at male-put together sexual viciousness counteraction programs with respect to school grounds. With an end goal to battle the inescapable issue of sexual brutality against school females, colleges have executed rape avoidance programs. While past programs have zeroed in on hazard decrease methodologies that target females, new projects are starting to zero in on moving toward men to challenge authoritative manliness and sex normal practices that are helpful for sexual brutality. Up to this point, the techniques for these projects have not been concentrated in detail. This examination utilizes meetings, perception, and record investigation to dissect the strategies what is more, messages of male-based sexual viciousness counteraction programs at colleges in the US. The examination depicts and investigates the inception, objectives, structures, methodologies, achievement, and difficulties of these projects. Their qualities and impediments are examined, and ideas and contemplations for the projects are given. As male-based savagery anticipation programs become more mainstream on school grounds, this examination offers a more profound comprehension of these projects that may illuminate and improve the work to battle viciousness against females.

6. Society v. Reintegration: Community Support for PTSD

Kianna Childers

It has been found that 1 in 11 people will be diagnosed with PTSD at least once in their lifetimes, and it can be extremely difficult for those suffering to integrate back into society due to the stigma that PTSD holds. The cost of living a normal life is not always obtainable by those with PTSD because of stigma and expectations that are put on them. Social structures are constructed to make it easier to deal with the consequences of the traumatic event rather than overcome it and thrive in society. Studies have shown that different levels community support have an effect on the level of ease when trying to reintegrate back into their respective communities (Okech, Hansen, Howard, & Burns, 2018). The focus of this study is to help aid in the reintegration of combat veterans. We will be looking at the correlation between the community's views on combat veterans and compare that to veterans, that live in the community, and their level of ease when try to integrate back into that community. We will be using two different surveys, one to measure the stigma levels of civilians and one to measure the ease of reintegration for combat veterans. We found that there is a significant correlation between the civilians' stigma views and the ease of reintegration for combat veterans. With this knowledge, it can help educate civilians on the importance of support of those suffering with PTSD, not only for soldiers, but for anyone who may fall victim to this mental illness.

7. #MeToo: The Life Experiences of Sexual Assault Victims

Talaysia Douver

Every life matters. Every victim matters. Every survivor matters. Every assault/rape matter. Every tear and every cry out for help matters. No matter if you are a man, a teenager, a young child, a woman, a lesbian, bisexual, pansexual, or even a transgender, we all matter. The victims did not ask to go through such mental and emotional trauma, nor did they ask to be hurt. They did not ask for their trust to be stripped from them. They did not ask to be targeted. They did not ask for tears to stream down their faces. They did not ask for their innocence to be taken so forcefully. So hurt that they were scared to call out for help or go get help. They were scared to tell their story because they felt like they would be judged or blamed for the event. When it comes to being raped, sexually

harassed, and a victim who was sexually assaulted; every life matters and every story should be and needs to be told and should be heard.

8. How COVID-19 Effects Fan-Based Experiences in MLB

Adrian Garcia

This study sought to examine the effect of the Coronavirus (COVID-19) on the fan based experience in the Major league Baseball (MLB). The study also sorts to investigate whether the fan based experience resulting from COVID 19 positively impacts or only presents sports fans' adverse impacts. Since 1876, COVID 19 is the leading factor to have distracted the league from the Great Depression and WWII. Following the spread of the COVID 19 pandemic, most governments laid down stringent measures, including mask recommendations, constraints on the social gathering, and travel ban (Perry 2020). The novel virus did not spare the sports arena. This made the MLB association develop an alternative and more creative way to satisfy their loyal fans, who play an essential role in funding significant regional clubs.

9. The Influence of Depression on Frequency of Drug Use

Ashlee Johnson

In the United States the amount of people who have been diagnosed with a mental health disorder has been rising at a rampant rate, but so has major drug abuse. In this research project the objective is to better understand if mental health is a part of the problem with drug use. Both are an evil battle but put together is even worse. The reason that this study was chosen was to better understand so if this does go hand and hand and if it does then how can we help overturn this. The type of focus for this research was quantitative research. Some of the things that this research led to was lack of insurance, self-medicating, and long wait times for mental health assistance. A few theories that were reviewed in the peer reviewed articles were rational choice theory, cross sectional-longitudinal study, and several others. Those who struggle with severe depression and reach out to illicit drugs are calling for help but this is the only way to catch the attention of others. Sometimes this becomes so dark that people lose their loved ones. The mission of this research project is to bring awareness to the mental health and drug problem so that the numbers can begin to fall again.

10. The Effects of Parenting Styles on Behavior and Crime

Jaylan Jones

The objective of this study is to further enhance the detail of criminal behavior, taking the stance that behavior is primarily learned and influenced rather than passed on through genetic pools. A very different approach has been taken as far as methods are concerned as the focal point of the study is on parenting styles and what styles produce a relationship between the parents and the children in which the child develops criminal behavior patterns.

11. The Role of Media in Creating Gendered Images in Soccer

Brittney Severson

Using a combination of various works of scholarly literature and media reports such as newspaper articles/headlines, magazine covers, television broadcasting, etc., this paper discusses and analyzes the role that the media plays in creating a gendered image of professional female athletes. This is an important topic to discuss due to the fact that while there has been a continuous pattern in the past and in today's society despite there being a slight, steady increase in the quality and volume of women's participation in sport, female athletes have continued to be underrepresented across various platforms within the media (Toffoletti, 2016). That being said, when female athletes are represented in the media, there tends to be a low volume of media attention as well as an array of mechanisms that have shown to contribute to media constructions of female sport such as linguistic choices and visual representations of women's sport. This paper uses qualitative content analysis to examine various scholarly research on the role of media in creating the gendered image of female athletes that contribute to the construction of attitudes towards and perceptions of women's sport. The sampling technique used for this

research is nonprobability quota sampling method. The quotas being set for the research include what sport played, age of the athlete, popularity of the athlete, level of profession (pro, semi-pro, etc.), and time played at this professional level. Content analysis will be used to conduct my research, examining a variety of social artifacts in order to analyze this content within the different forms of media, revealing the sexualization patterns in the communication substance of the media. I examine how these representations contribute to the sexualization of female athletes and what role the media plays in society's gendered image of these gendered athletes. Finally, potential avenues for a non-gendered representation of women in sports is discussed.

12. The Effects of Family Economic Standing on Recruitment of College Athletes

Jeremy Smith

For my topic, I chose to study how an athlete's family financial standing effect their opportunity to being recruited to collegiate athletics. Through my research I can conclude that most families who are finically stable enable their children to more collegiate recruiting opportunity in comparison to families who struggle financially.

81. Crazy Incarceration Rates: The Stigmatization and Criminalization of Mental Health

Rea-Samone Brown

This study focuses on how the stigmatization associated with mental illness effects the rate of incarceration for the mentally ill community. I hypothesis that the stigmatization associated with mental illness increased, the rate of incarceration rate would also increase. In an article, Dangerous or Diminished Capacity? Exploring the Association of Gender and Mental Illness with Violent Offense Sentence Length by Megan Davidson and Jeffery Rosky found that there was a correlation between gender and violent offense sentencing length and whether they were considered diminished or dangerous. Davidson and Rosky's "findings reveal that the presence of a mental illness tended to increase violent conviction sentence length reported by male offenders and decrease sentence length reported by female offenders, suggesting mental illness in the context of a violent conviction may be interpreted as evidence of diminished capacity for females and future dangerousness for males" (Davidson and Rosky, 2015, p. 1). This article is one of the articles in my research that supported my hypothesis that the stigma of mentally ill would increase the rate of incarceration as well as other articles that looked at trainings in improving how officers respond and reducing the stigmatization associated with the mental health community.

Biology

13. Bomb Calorimetry and Accuracy of Nutrition Labels

Lexi Resa

Calories represent the energy found in food and help fuel our bodies to perform vital functions. The caloric values of food can be found listed on nutrition labels on the backside of packages. This information is used by many health-conscious individuals who rely on its accuracy to keep track of what they are eating. However, with an FDA allowance of 20% error on nutrition labels, the true certainty of these labels can be questioned. Past experiments have used different types of calorimeters to test the accuracy of food labels. In this experiment, bomb calorimetry is used to test the energy found in different processed and whole foods. Comparing the calculated calories per gram to the expected value will show if this method is a reliable way of measuring calories while also challenging the accuracy of nutrition labels. It was found that the bomb calorimeter was more accurate in determining the calories in whole foods when compared to the processed foods tested in this experiment. The calories were too far off of the expected value to be considered reliable when looking at the overall accuracy of the labels. Future research can be done comparing different methods for determining caloric values of food or comparing different brands and companies to see if some are more accurate than others.

14. Working Memory in Female Athletes

Katrina Estes

Is it possible to improve working memory after it has stopped developing in young adults through music therapy?

15. Variations in ACL Reconstruction Surgery with Graft

Kathleen Niles

ACL reconstruction surgery varies in relation to the graft being used. In this study, differences in range of motion of knee flexion were compared to the hamstring, quadricep, patellar tendon, and cadaver grafts respectively. Damage to this ligament commonly occurs due to a weakness in a particular muscle group. Data from this study shows the tendency of the hamstring muscle group to be characteristically weaker in comparison to the quadricep muscle group in both the previously injured and non-injured legs.

16. Abundance and Diversity of Bat Species in Unmanaged Forests and Restored Oak Savanna Ecosystems

Griffen Molenberg

Widespread restoration efforts of oak savanna ecosystems began in the early 1990's and continue today on public and private lands across the Midwest. This work typically involves clearing invasive trees and brush and returning frequent fire to a management area.

The US Fish & Wildlife Service has issued a biological opinion that these actions benefit habitat for North American bat species and promote the recovery of the Indiana Bat and Northern Long-Eared Bat, two federally listed endangered species.

The primary goal for this study is to evaluate the potential impact on bats from oak savanna restoration efforts. In this paper we report acoustical monitoring data of bat calls collected in May through November 2020, and address the following hypotheses: Species diversity will be greater in areas of oak savanna restoration than in similar sized unmanaged natural areas. Abundance of bat species will be greater in areas of oak savanna restoration than that of overgrown control areas.

Our data shows an obvious increase in the amount of bat activity at the restoration site versus the control site. The differences in bat abundance between the two sites approached statistical significance. This may indicate that the cleared and managed location has better habitat than the area infested with invasive shrubs and weed trees and is beneficial to bats in general. Specific benefits to the Indiana and Northern Long-eared bat require further investigation and monitoring.

17. Bird Diversity Abundance in Response to Oak Savanna Restoration

Gary Carter

For this research I set up three different areas in an oak savannah restoration sight at lake red rock. The three sites where inside the timber, on the edge of the timber, and finally outside the timber. My research consisted of watching and listing to the different types of birds that stay in the state of Iowa during the winter in oak savannah areas and which habitat area around them that they prefer. What else that I was looking for was the different plants and other vegetation that would allow the birds food and or sanctuary as well as the animals that. Some of the birds can have for prey.

18. Effects of Exercise on Female, Student-Athlete's Depression

Alicia Jaquez

Depression has become more prevalent in college students, with many stating a common theme of exercise playing a role in maintaining their mental health. The purpose of this study is to determine the correlation between the amount of exercise conducted and how it affects an individual's depression scores (PHQ-9 scores). Recreational therapists have been able to respond to depression through physical activity. In doing so, this study will examine the severity of female student-athlete's depression and how it alters their severity. There is a

significant amount of research that identifies the positive effects of physical activity on both clinical depression as well as depression among non-clinical populations. For this study, we will examine approximately twenty-five female student-athletes between the ages of eighteen and twenty-four and measure their PHQ-9 scores prior to working out and after working out to determine if the data is significant enough to state if exercise can be used as an alternate tool to maintain or treat one's depression.

19. Geographic Distribution of Pelage Color Variation in Raccoons

Quinton Casteel

Pelage color in raccoons may differ in distinct genetic populations across variable habitat types. *Procyon lotor* (Raccoon) and other mammals have specialized coat patterns. This allows them to blend into their surroundings and the background in which they live. We conducted this study to test whether geographic location led to variation in raccoon fur coloration and to address the following hypotheses: Raccoons that live in heavy wooded areas will have darker coloration in order to blend into more shaded environments. Conversely, raccoons living in more open habitats will be lighter in color for greater camouflage in sunlit areas.

20. Fall and Winter Habitat Selection by White-tailed Deer (*Odocoileus virginias*) in Southwestern Iowa

Allan Roentgen

White-tailed deer have been able to adapt and thrive in almost all ecosystems that planet earth has to offer for nearly 4 million years. Habitat selection in any animal species influences population regulation, species interactions, and ultimately the assembly of ecological communities. For White-tailed deer, selection of different habitat types has a direct effect on population regulation, and with the stability of deer populations through time.

21. Comparison of Perceived Stress and Vital Signs on Athletes vs. Non-Athletes

Michelle Reyes

This research study is to explore and compare the perceived stress levels of athletes and non-athletes within William Penn University. My objective was to see if athletes are more stress than non-athletes, which was inspired my personal experience being a student athlete through my college years. For this project, I will conduct a survey for athletes and non-athletes then run a statistical analysis of the data I collected by using the surveys. The findings of this project were that non athletes had a higher score on the perceived stress scale and vital signs than the athletes.

22. The Effects of Stress on Runners

Najai Alexander

The effects of stress can be very expansive when it comes to the human body, It can onset by a number of different symptoms in individuals that may vary based on gender, age and fitness levels. This research is focused solely on identifying the effects that stress has on experienced runners and how that stress impacts their body's. Heart rates, temperatures, blood oxygen saturation and a short survey regarding symptoms related to stress will be used to make accurate comparisons on how stress effects the focused groups altogether. For the research two groups of mid distance runners which would include four men and four women so that a larger group of comparisons can be made the individuals as well as the two groups.

23. Winter Habitat Selection of White-Tailed Deer (*Odocoileus virginianus*) in South Central Iowa

Emily Van Der Veer

Odocoileus virginianus, commonly referred to as White-tailed deer, are the smallest species in the family Cervidae. Other species of this family include Mule deer and Elk. White-tailed deer are commonly found throughout North America and these herbivorous mammals prefer to forage for leafy foods in forests and feed on corn and soybeans in picked agricultural crop fields. Feeding behaviors may change depending on weather and time of year, but they are usually nocturnal and feed at dusk and dawn. In the winter, the deer tend to stay in thick brush for thermoregulation and predator avoidance cover. In the summer, they spend more time in open, breezy meadows and shady areas to keep cool.

White-tailed deer breed in mid to late fall. During this period of time, the male deer, called bucks, chase after the females, or does and compete with other males to successfully pass on their genes. After the rut is over, testosterone levels drop in the bucks and they shed, their antlers usually starting in December.

In this study, we considered the following hypothesis:

1. White-tailed deer will select harvested agricultural crop fields during the winter season for night time foraging.
2. White-tailed deer will select against areas occupied by humans.

24. Physiological Effects of Dairy Milk on Mice

Avery Rayos

Milk consumption in mammalian evolution is a naturally maternal source of nutrition, promoting offspring fitness and survival amongst juveniles during an essential period of growth. Its compounds are ideal for development by supplying energy, amino acids (as protein), antibodies, vitamins, and minerals to the drinker. Milk is sufficient to activate mTORC1, the crucial regulator of protein, lipid, and nucleotide synthesis assembling anabolism, cell growth and proliferation. To fulfill its activating function (mTORC1), milk conveys four key metabolic messengers: (1) essential branched-chain amino acids (BCAAs); (2) glutamine; (3) palmitic acid; and (4) bioactive exosomal microRNAs. Milks of various species differ widely in amounts and proportions of beneficial constituents. The phylogenetic relationships among species could aid in understanding the selective advantages of consuming interspecies milk types.

Since the consumption of cow's milk among humans has been culturally accepted in most regions of the world today, translational research supports this milk type's effect as predominantly constructive for us. Dairy effects are studied in modern man on a biologically intricate level, but tests and experiments on humans can be limited in order to preserve ethics in science. The house mouse (*Mus musculus*) has become a preferred mammalian model for genetic research. The mouse shares many similarities to humans on an anatomical, physiological and genetic level. They are small and convenient to habitat while watching behavioral changes. Mice are far better than flies or worms for studying complex biological systems found in humans, such as the immune, endocrine nervous, cardiovascular and skeletal systems.

25. Exercise and Its Effect On Stress & Vascular Health

Ashley Porter

It is widely known that benefits of exercise are exponential within the human body. There are multiple studies linking lower blood pressures and heart rates with regular exercise. Normal blood pressures should run around or less than 120/80. A systolic value above 120 along with a diastolic value above 80 is indicative of pre-hypertension. If values run higher than 140/90, the person is suffering from stage 1 hypertension. This is disturbing because hypertension poses many physiological risks to the body such as kidney failure and cerebral vascular accidents. (Holman, 2021, Pg. 233). Furthermore, when people are diagnosed with hypertension, they may be prescribed several medications such as beta blockers and or ace inhibitors. Along with this, many are also asked to make lifestyle changes, too. These include but are not limited to, nutrition, exercise, and stress reduction. (Holman, 2021, Pg. 233). Past research suggests that exercise is a natural, effective, anti-hypertensive which is the reason behind medical professionals asking those with sedentary lifestyles to incorporate exercise into their daily routines. An article reads, "Acute physical exercise has shown decreased values in the post-exercise blood-pressure (BP) when compared to the pre-exercise resting values, this phenomenon is called post-exercise hypotension" (Medeiros, A, 2017). This finding supports the theory of exercise improving vascular health. As for stress, it too can cause negative effects on the body both physically and mentally. It is normal to experience stress, but some life instances cause an increase in stress which results in unhealthy minds and bodies. Populations of concern are college students. As students transition into this new stage of life, most experience an increased amount of stress. Whether the students adapt or not is said to be based on their ability to cope with these new stressors. This can be measured in student's perceived level of stress. Research suggests, "According to Lazarus and Folkman, this primary appraisal (i.e., perceived stress) determines the degree of confidence individuals possessed regarding their ability to cope with stressful situations (i.e., secondary appraisal)" (Lee, 2016). For example, if one is confident in their ability to cope, then they will report experiencing lower amounts of stress and vice versa. Moving forward, those failing to cope and reporting increased levels of stress may not only be at risk for disorders such as anxiety and depression, but also physiological disorders such as hypertension. An article states, "Research among college students supports a relationship between heightened levels of stress and behavior patterns that may compromise health (Bowen & Marlatt, 2009), an excerpt from TJ Exford's article, "Mindfulness, Exercise, and Stress Reduction: The Effects of a Physical Education Mindfulness-Based Exercise Course in Increasing Physical Activity, 2018." This statement indicates that there is a high number of college students experiencing increased levels of stress and that their sedentary lifestyles could be the reason behind their increased levels of stress. With this, the purpose of this study is to identify whether or not students have lower blood pressures, lower pulses, and report lower levels of stress on days they

exercise in comparison with days they do not. This research is important because results could further support the physiological benefits of exercise, along with the psychological benefits of exercise.

26. How Grafts on ACL Reconstruction Affect Women Soccer Player's Return to Play

Anai Hernandez

The most common athletes to tear their ACL's are women soccer players. In a full rupture, the ACL is completely taken out and a graft is used as a replacement ACL. The most common options for a graft are hamstring tendon, patella tendon, or cadaver. The patellar tendon connects the patella to the tibia. The hamstring tendon connects the hamstring to the tibia. When someone uses a cadaver graft, it can be any strong piece of tissue from someone that has passed and donated their body. Usually knee ligaments are used as the graft. In this study, twenty-three female soccer players that have torn their ACL and have had reconstructive surgery filled out a survey with questions pertaining to the mechanism of the injury, rehab of the knee before surgery, rehab of the knee post operation, and how the knee held up after the athlete was fully cleared. Although there were only twenty-three athletes that filled out the survey, there were thirty-one responses submitted. This is because a survey was filled out for each time an athlete tore their ACL. In total, eight athletes tore their ACL more than one time, and six of the eight athletes had bilateral injuries. This study is designed to see what graft gave the best outcome after surgery.

Kinesiology

27. Keys to Success in PAC 12 Volleyball

Taniah Ayap

At the collegiate level, teams compete to win championships. The 2019 PAC 12 women's VB teams' keys to success stem from hitting, blocking, and passing. To prove this, we must investigate the relationship of winning, hitting, blocking, and passing percentages. Based on the results, there is a significant relationship between winning, hitting, and blocking percentages.

28. Rushing Yards, Touchdowns, and Win %

Kathryn Gutch

All around the world, no matter where you are from many people have heard or watched American Football. Football which roots come from the games of soccer and rugby dates to 1892. "On November 6th, 1869 the first game of American Football occurred" (History Staff, 2013). Since then, football has been one of the most watched sports in the world. Football has many different factors that play a role in the statistics of the game. Each game can be followed by many different statistics. It can be broken down into each point, yard, kick, penalty, and possession. The purpose of this study is to explore the relationship between the number of rushing yards, touchdowns scored, and touchdowns allowed to the winning percentage through the 2015-2020 seasons for the Iowa Hawkeye Football Team.

29. NBA EAST vs. WEST

Derrick Holman

Stats which from the top 8 NBA teams from the East and West divisions were compared for shooting percentage and the number of shots taken and made to find out if more shots at a higher percentage were better. The study consist of Professional basketball players' stats in competition so making the stats more realistic for comparing and analyzing.

30. Title of Practicum Project on Two Lines Only

Jonathan Riley

It was hypothesized that if we carried out a correlation test on rebounds per game and total wins over a season on NBA teams, we would find a positive correlation, meaning more RPG would equate to more wins.

A moderate, positive correlation was found in 2 seasons tested and a low correlation was found in the 3rd. Possible reasons for this are discussed in the conclusion.

31. Runs Batted In and Winning Percentage

Rakiyah Harper

Softball is one of the most challenging sports to play. Eric Rynston-Lobel (2020) said it best when he said “there are few aspects of life where you can fail seven out of ten times and still be considered great at what you do.” In the game of baseball and softball some of the greatest players fail more than succeed but are still icons, that’s why both are known as the game of failure. To score you must move runners and hit them in which is the main aspect of this study. This study aims to determine the relationship between runs batted in and the winning percentage in 2016 using a Person product-moment correlation coefficient among NCAA D1 teams and NAIA teams.

32. Examination of scoring in the NFL

Percy Burton

In football there are a great deal of insights to discover and follow. Each game can be represented the moment of truth on each point, yard, down, penalty, and run has the effect between a success and misfortune. The reason for this examination is to investigate the connection between the quantity of scores and wins, and how that looks at to the groups who made and didn't make the playoffs.

33. Statistical Analysis of Professional Golf (PGA Tour)

Spencer Tucker

The topic of my discussion is to find the effect that GIR, FIR and making putts has on scoring on the PGA Tour. I investigated the top-10 players in the world for the 2019 season and explored into their stat sheets. Finding correlation in my Null Hypothesis was key because it showed what factor is the most effective and which is the least effective. The results showed some surprising results, and they weren't even close.

34. Comparing Points per Game and Wins in NAIA College Basketball

Demarius Cager

This paper is to see if there was a relationship between points per game and wins. The data was collected from Dakstats and Excel was used to make calculations.

After analyzing the data, there appeared to be a very strong relationship between points per game and wins. A null hypothesis was rejected, and it can be concluded that scoring more points per game do lead to more wins.

35. Success comparison between one-handed and two-handed bowlers

Rok Kostric

The research looks at the differences between one-handed and two-handed bowlers in titles, averages, and earnings and match play appearances. With the data gathered we determine there is no significant difference in in titles, averages, and earnings but, there is a significant difference in match play appearances.

36. Do team salaries affect season wins?

Aleksander Kostric

The research looks at the correlation between season wins and team salaries to determine if there is a correlation between them. Using data found online we conclude there is some significance between the two data.

37. Points Per Game and Wins in the NFL

Fynn Alade

The NFL has changed for the better from the way it started back then to the present. With the way it has changed the game is more fast paced. The statement of this problem is do teams that have a higher scoring average win more games. It may have to do with the coaching styles. From data collected teams who had higher point per game won more.

38. The relationship between winning percentages, batting averages, and ERA

Rachael Haessly

The two leagues that make up the MLB are the National League and the American League. Both leagues are very competitive and have successful athletes. Making it to the World Series is always a challenge, but the teams that produce every game are typically the most successful. Success can easily be looked at by analyzing statistics. In this project the main goal is to determine if there is any correlation between team batting averages, winning percentages, and ERA in 2019 using a Pearson product-moment correlation test among the 10 teams that qualified for the World Series.

39. VAR and its effects on modern professional soccer

Sebastian Viteri

This study is focused in determining whether the introduction of VAR (Videos Assistant Referee) has had a direct effect on contemporary professional soccer. Three aspects were considered: Red cards, offsides, and penalties awarded.

40. Run vs Pass in Big 12

Jacob Ringwald

This research project will dive into which play calling style in Big 12 college football leads to more wins. The focal point of this study is to determine whether teams are more run or pass orientated and how their philosophy may affect winning percentage. The significance will be held at the 0.01 level. Some of the hypotheses in this study were rejected and some were accepted.

41. What Is The Most Dominating Fighting Style In The UFC?

Wade Votroubek

When the UFC was founded in 1993 set out to find out who is the toughest fighter in the world. Just as the UFC has sought out to do this study aims to test the top three fighting styles against each other striking, Brazilian Jiu jitsu, and wrestling. Once Data was collected a correlation test was run to compare fighters winning percentages, salaries, and finish rates among different fighting styles in the UFC.

42. The Relationship Between Points Per Game, Field Goal Percentage and Wins.

Brittany West

The game of basketball is a game of making baskets. Shooting the ball and consistently making it is an important part to the game. It was hypothesized that teams that average more points per game and have a higher field goal percentage win more games. The data was collected from NBA.com and WNBA.com from the 2018-2019 seasons. After collecting the data a correlation test was used to help determine the relationship between points per game, field goal percentage and wins in the NBA and the WNBA.

82. Winning factors among top NAIA men's basketball programs

Ahmed Pender

This study examines how the game of basketball has changed and evolved over the years. A recent emphasis on 3pt field goals, field goals, and turnovers has had a major impact on how the game is coached and played.

Business

43. Microsoft Corporation

Raven Williams

In the late 20th century, Bill Gates and Paul Allen both quit their everyday activities to focus on their new company, Microsoft. They got their name of the company from the two words, microprocessors and software. Microsoft, which is currently in the software industry competes against other corporation such as IBM, Oracle and SAP.

44. Walmart

Hannah Williams

Walmart was founded by Sam Walton in 1962 and became incorporated on October 31, 1969. When Sam Walton bought a branch of the Ben Franklin stores from the Butler Brothers, his focus was to sell products at low prices to get higher sales at a low profit margin. He did have setbacks because of lease prices and branch purchases being high, but he found lower cost suppliers than the ones other stores used and was able to beat his competitors on the prices.

45. Toyota Motor Corporation

Annalise Whitcomb

Founded in 1937 by Kiichiro Toyoda as a spinoff from his father's loom company, Toyota Industries Corporation. Headquarters is located in Toyota City, Aichi, Japan. Named "Toyota" instead of "Toyoda" because Toyoda uses 10 Japanese strokes and Toyota only uses 8. In Japanese culture, 8 is considered a lucky number.

46. Ford Motor Company

Matthew Ver Meer

Ford was founded on June 16, 1903 by Henry Ford. He had an idea to create a four wheeled bicycle that had a motor on it which he first called the quadricycle. The first project that Ford had was to create the two cylinder Model A car that would reach its fastest speeds at thirty miles per hour with a horse power of eight. Ford would then put the model B and C cars into production, but it wasn't till the Model T were having a vehicle would become the normal. This was because of how affordable the car was at a price of \$825. This also is when the assembly line was invented, and these vehicles could be made much faster and decreased the price.

47. Johnson and Johnson

Hung Tong

In the year of 1886, three brother Robert Wood Johnson, James Wood, Johnson, and Edward Mead Johnson formed Johnson & Johnson in New Brunswick, New Jersey. After hearing a speech by Joseph Lister an antiseptic advocate in 1885, the brothers were inspired to create a line of ready to use surgical dressings.

48. The Walt Disney Company

Andrew Sterner

Founded in 1923 when Walt Disney signed a contract with M.J. Winkler to produce a series of Alice Comedies. Was first known as Disney Brothers Cartoon Studio. Disney looks to continue its success in the entertainment industry with new original movies and streaming divisions.

49. Chick-fil-A

Hunter Sterling

In 1946, S.

Truett Cathy opened the Dwarf Grill in Hapeville Georgia, a suburb of Atlanta. Later on, in 1964 he develops the recipe for the original Chick fil A chicken sandwich. The name Chick fil A wasn't coined until 1967. Then, in 1984 the corporate headquarters for Chick fil A was located. During the late 60's to early 80's Chick fil A's were only located in malls and shopping centers across Atlanta and its surrounding suburbs. It wasn't until 1986 that the first stand alone Chick fil A restaurant outside of food courts came to be. The first stand alone location was on North Druid Hills Road in Atlanta.

50. Spotify

Jaden Scott

Spotify is an application that allows for the streaming and downloading of audio, and now some video, content. It gives a medium for creators to upload their content for all who own the app to enjoy. It operates under the freemium " model, being free to download, but offering a paid subscription for the full advantages.

51. Netflix Inc.

Breno Scomparim

1997: Reed Hastings and Marc Randolph had an idea to rent DVDs by mail. They tested the concept by mailing themselves a DVD. The DVD arrived intact, and the idea for Netflix was born. 1998: Netflix.com, the first DVD rental and sales site, is 1999: The Netflix subscription service debuts, offering members unlimited DVD rentals without due dates, late fees, or monthly rental limits. 2000: A personalized movie recommendation system is introduced, using members' ratings on past titles to accurately predict future choices.

52. eBay Inc.

Hunter Russell

eBay started as a website called AuctionWeb in September of 1995. Founder and creator Pierre Omidyar wrote the code on his personal computer. The site was dedicated to bringing together buyers and sellers in an honest and open marketplace." In 1996, AuctionWeb reached \$7.2 million worth of sold goods. After the fast development, Pierre appointed Jeff Skoll as President of AuctionWeb. The first company office opened up in San Jose, CA. In 1997, AuctionWeb was officially renamed eBay. In the following year eBay became a publicly traded company.

53. Deere & Co.

Sarah Rauschenberg

John Deere was a blacksmith who developed the first commercially successful, self scouring steel plow in 1837 and founded the company that still bears his name. In 1848, Deere moved his growing operation 70 miles southwest to Moline, Illinois, on the east bank of the Mississippi River. Soon, Deere's company was making 1,000 plows a year. Business boomed as Deere established a reputation for both his plows and his principles. Those same principles guide Deere & Company to this day. Among them was his insistence on selling only high quality products.

54. The Walt Disney Company

Miranda Pelant

The Basics

Business Model focuses on Business to Consumer

In 2020 Disney underwent a strategic reorganization to put more focus on Direct to Consumer products

Operates in the Media and Entertainment Industry

Employed 203,000 people in 2020

Trade Symbol: DIS

Headquartered in Burbank, CA

55. TESLA Inc.

Salina Oudomsouk

Engineers Martin Eberhard & Marc Tarpenning

Entire electric vehicles

Founded in 2003

Tesla Motors until 2017

Sells vehicles through their own sales and service network

56. Oracle: A Case Analysis and Review of Business Operations, Strategy, and Corporate Structure

Connor J. Muff

This case analysis explores the global computer software company, Oracle Corporation and will include an in depth review and critical analysis of the firms' entirety as well as a comparison to similar organizations. The case analysis will significantly examine Oracle's external and internal conditions as well as the firm's vision, mission, objectives, and policies. An analysis of their business operations and corporate structure provides definitions and examples as to what Oracle has put in place to help shape their entire organization from top, to bottom. The analysis is supported by a variety of articles, books, and documents regarding Oracle's performance in their respective business operations and corporate structure. Keywords: Policies, Principles, Structure, Computer software, Corporate structure

57. Alphabet INC. Corporation

Jace Mueller

Alphabet Inc. is an American multinational company. It was created through a restructuring of Google in 2015 and became the parent company of Google and several former Google subsidiaries. It kept most of Google's structure.

58. Mercedes-Benz

Guilherme Lira

The story began more than a century ago in Germany and is the first chapter of vehicle motorization in the world. The protagonists Gottlieb Daimler and Carl Benz built the world's first motorized cars in parallel. The pioneering spirit of these men led them to collect other achievements such as the construction of the first bus, the first truck with a gasoline engine and the first diesel truck in the world. In April 1900, Emil Jelinek and DMG signed a vehicle and engine distribution agreement. Right from the start, it was agreed to develop a new form of engine that should bear the name "Daimler Mercedes". The first of the vehicles with the new engine, a 36 HP racing car, was delivered in December 1900 to Jelinek. Representing the triplicity of activities of Daimler, a manufacturer of engines for use on land, sea and air, the three pointed star was adopted as a logo in 1909, after the death of Gottlieb Daimler. Over the years, the symbol has undergone several changes. In 1923 the circle was added. And three years later, with the merger of the companies Daimler and Benz, the laurel wreath, of the Benz logo, was included. The definitive form was adopted in 1933 and has since remained unchanged

59. Ralph Lauren Corporation

Mallory Lanphier

The iconic American fashion company is a global leader within the apparel, home, accessories, fragrance, and hospitality departments. 1967 – founded when Ralph Lauren created a necktie line while working in the Empire State Building. Expanded to new products, brands, and international markets. Next Great Chapter Strategy strives to deliver “sustainable, long-term growth and value creation.”

60. Costco Wholesale

Nicole Lancaster

Mission Statement: “to continually provide our members with quality goods and services at the lowest possible price”

61. Walt Disney Corporation

Andrew Lallier

From humble beginnings as a cartoon studio in the 1920s to its preeminent name in the entertainment industry today, Disney proudly continues its legacy of creating world class stories and experiences for every member of the family.

62. Tesla Inc

Tyler Hefflefinger

Tesla was founded in 2003 by a group of engineers who wanted to prove that people didn't need to compromise to drive electric vehicles. Today, Tesla builds not only all electric vehicles but also infinitely scalable clean energy generation and storage products. Tesla believes the faster the world stops relying on fossil fuels and moves towards a zero emission future, the better.

63. Airbnb

Madison Guiter

The company was founded August 8th , 2008 in San Diego California. Airbnb was created when the two founders moved to San Diego and bought air mattresses for people to rent out on their apartment floor, thus naming the website air bed and

breakfast. Airbnb's mission is to create a world where anyone can belong anywhere, and we are focused on creating an end to end travel platform that will handle every part of your trip. They want people to be able to travel and be taken care of without the cost, hassle, and uncaring ways of a hotel. They want you to feel at home away from home. To Airbnb you are family, not just a customer.

64. Amazon

Salvador Flores

Founded in July 1994, Amazon originally started as a book seller but over the years it has expanded to selling a huge variety of consumer goods, digital media, and its own electric devices. Amazon is now the world's largest online retailer and a prominent cloud services provider. The company also has individual websites, software development centers, customer service centers, and fulfillment centers in many different locations around the world.

65. Dick's Sporting Goods

Zachary Edgar

The company was created in 1948 by Dick Stack. He started at an Army surplus store in New York. His boss asked him to make a list of products for the fishing business and laughed at him afterwards. His grandmother gave him \$300 to start up his own bait and tackle shop; This is when Dick's Sporting Goods was born, and it has grown ever since.

66. General Motors

Eddie Daley

General Motors was founded on September 16, 1908 in the city of Flint, Michigan. William C. Durant was the mastermind behind the General Motors operation. General Motors engages in producing the highest quality, dependable and future innovation for the automobile industry available. General Motors has always focused on the foreseeable future, and what they can do to achieve the highest level success.

67. Nike "Just Do It"

Dylan Comstock

Nike was first formed in 1964 under that name Blue Ribbon Sports (BRS). Under this name they operated as a shoe distributor for a Japanese shoemaker called Onitsuka Tiger. The first year selling these Japanese shoes BRS sold 1,300 pairs for \$8,000. Nike was founded by a University of Oregon track athlete by the name of Phil Knight. Phil Knight's coach Bill Bowerman helped create the company. BRS worked with Onitsuka Tiger from 1964 to 1971. At this point is when BRS started their own footwear line and rebranded as "Nike". Next, the Nike Swoosh was implemented on June 18, 1971. It was in 1974 that they got the Nike Swoosh trademarked. By 1980 Nike had 50% of the market share in the US for athletic shoes. During the 1980s Nike expanded through different sports and regions throughout the world helping to promote their business worldwide. In 1990 Nike moved into its state of the art new headquarters in Beaverton, Oregon. The first Nike store opened in Portland later that year. Nike has owned a subsidiaries since 1988 when they acquired the footwear company Cole Haan. They also purchased Hurley International, Bob Hockey, and Converse. They have since sold all the above except Converse. A new CEO by the name of John Donahue was announced and took over the company in 2019. In Nike's 2020 fiscal year they reported revenues in excess of \$37.4 billion. They also employ 76,700 people worldwide. As of April 25, 2021 Nike had a net worth of \$208.93 billion.

68. Lululemon Athletica Inc.

Alison Blommers

Mission Statement: "To elevate the world from mediocrity to greatness"

Vision: To create a place where customers can learn more about healthy lifestyles and to be able to wear clothes that would match that activity. To create relationships with the customers and to celebrate goals achieved together.

Applied Computer Science

69. Effects of Crypto Jacking

Jacob Wiechmann

In the past decade currencies have gained popularity. This can be attributed to bitcoin as companies started accepting it as payment in 2010. Crypto mining utilizes the resources of a device to transfer transaction records to the crypto currency's public ledger. It is no longer profitable for miners to mine because the cost of electricity often exceeds the value of bitcoin mined. However, there was still currency's out there to be mined. Due to this, third party resources are often used to mine bitcoin. While this may occur with the device owner's permission, that is not always the case. Crypto jacking involves utilizing a devices resources without the owner's consent in order to maximize profit.

70. Actuaries and the Factors They Observe

Kenzi Gullion

An actuary is someone that does statistics and predictions, often for an insurance company. There are many different factors that actuaries look at when deciding premiums for individuals. I wanted to examine some of these different factors and see just how much of a difference they make. The two factors that I chose were gender and age.

71. Statistical Analysis and Regression of Basic Baseball Stats

Olivia Usher

Using a previously created project in python, I ran regression testing on a bigger set of data to confirm my findings. This included verifying the correlation between runs, runs batted in, and on base plus slugging percentage. Along with innings pitched and walks, hits, and innings pitched.

Human Services

72. YMCA

Jasper Stottlemeyer

The Y is a leading nonprofit organization for youth development, healthy living and social responsibility. The Y is a powerful association of men, women and children committed to bringing about lasting personal and social change.

73. Eunoia Counseling

Kali Smith

The human services profession was founded on the basis of assessing needs and problems for people. There are certain values that a human services professional is expected to have such as respecting the dignity and welfare of all people, promoting self determination, honoring diversity, advocating for social justice, honesty, objectivity, and genuineness. In sessions, the client has a right to privacy; the security of client records, avoiding to duplicate another professional's helping relationship with the client, and all consultations are kept private. Lance Roorda, the owner and sole employee of the Eunoia Counseling Clinic. He talks to his patients and helps them make decisions and clarify their feelings to enable them to have the tools to solve problems. He offers support and guidance to ensure his patients have a structure of support in their lives. Counselor Roorda works with a variety of ages and groups such as children, teens, adults, couples, and families.

74. Oskaloosa Police Department

Kianna Childers

“The Oskaloosa Police Department exists to provide safety and service to every citizen, recognizing of primary importance the protection of the constitutional rights of all. The agency is committed to establishing excellence in delivering services through teamwork; participation of every employee; community policing; problem oriented approaches; planning; and creation of a vision for the future. Employees are encouraged to be diversified, striving for individual development; continuous improvement; serving as an example of leadership and contributing to a high quality of life.” Oskaloosa Police Department Official Mission Statement

75. Ottumwa Residential Correctional Facility Eighth Judicial District Iowa DCS

Adyson Blom

Ottumwa Residential Correctional Facility is a part of the Eighth Judicial District Iowa Department of Correctional Services, which includes fourteen counties in southeast Iowa: Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Lee (North and South), Louisa, Mahaska, Monroe, Poweshiek, Van Buren, Wapello, and Washington. Ottumwa Residential facility offers transitional housing to people who are not fully incarcerated, some are placed on probation, parole, or work release. Residents of the facility are required to be on some sort work release program. The objective of the residential facility is to assist clients in to positively establishing themselves into society.

Psychology

76. How Parenting Styles, Race, and Socioeconomic Status Affect Children’s Mental and Behavioral Health

Cassandra McHaney

Children's emotions and mental health tend to be influenced by the environment they are in. The current study will investigate how specific parenting styles (permissive and uninvolved), socioeconomic status, and race is related to a child's mental health / behavioral challenges. In this proposal, we will use questionnaires that will measure the parenting styles and any indications of depression, anxiety, or aggression in children. The proposal will go further into investigation by also having one on one interviews with researchers. Expected findings include that parents of low socioeconomic status and permissive parenting will have children with high scores in depression, anxiety, and aggression.

77. Parental Influence And Gender Diversity On Adolescents Who Identify On The Autism Spectrum

Michelle A. Hammar

In a society where diverse gender expression can attract bullying, harassment and/or hate crimes, it is important to understand how sometimes the root of these events can be unconsciously brought about through the gendered expression and opinions of the individual’s parents/guardians. This proposal includes a two part survey in order to determine the exact demographics of the participant group and then further investigate the individuals’ perspectives of themselves, their parents and how adolescents’ view their parents’ perspectives. Expected findings include that adolescents on the autism spectrum are more likely to identify as diverse gendered when gendered parent roles are present in the household.

78. Empathy, Extraversion, and The Bystander Effect

Mikayla Smith

The bystander effect is when people are less likely to help someone when others are around. Psychologists have argued that the bystander effect occurs because the responsibility diffuses across the set of potential helpers. This study focuses on the empathy and extraversion, aspects of the bystander effect. This proposal includes a three part survey in order to determine how these aspects effect whether bystanders help others. Expected findings are that people that help are more extraverted and have higher levels of empathy and those who don’t help will most likely be introverted and show lower levels of empathy.

79. Referral Bias: Exploring the Interaction Effects in Gender And ADHD Subtypes

Shayleigh Brinegar

ADHD is one of the most commonly diagnosed child psychiatric conditions in the United States, with an estimated incidence rate across cultures as high as 3.5% in children. However, disparities in prevalence between boys and girls exist which are likely due in some part to referral bias between gender and ADHD subtypes which range in symptomatology. We will use several vignettes to determine which factors trigger teachers to make a clinical referral. Our study intends to manipulate gender and display of ADHD symptoms to determine what causes the disparity in clinical referrals. We anticipate a gender bias in clinical referrals, teachers will be more likely to refer children with externalizing symptoms over those with internalizing symptoms, and that teachers' prior knowledge of ADHD will impact their referrals.

80. Positivity and the Human Experience

Marie Minton

This study aims to illustrate the potential benefits in daily life that can be gleaned using positive thinking, and/or mindful meditation. Studies have proven that there is a definitive mind body link, as demonstrated by the consistency of placebo pills to “work” for people who believe they are receiving medication. By providing participants with daily tasks for self-reporting, it is assumed that participants will, for the most part, respond positively to the experiment and will report over time an increase in a feeling of general well-being.