Angular Correlation of Annihilation Radiation Signals

Mason Austin
Faculty Mentors: Dr. Ben Brown, Physics

One of the major goals of the UC Riverside positron lab is to successfully create a Bose-Einstein condensate of Positronium, with the hopes of building a powerful annihilation gamma ray laser. The method of accomplishing this goal would be Angular correlation of annihilation radiation (ACAR). Positronium annihilations results in the release of two coincident gamma rays, each with an energy of 511 KeV. Through a process using scintillation, these gamma rays become ultraviolet light that can be used to produce a signal through a photomultiplier tube. The problem with the system is that there are impediments with the signals detected. Sometimes the signal through a channel could be cross talk or any other form of noise (undesired signal). This must be accounted for in the future because ACAR will be used to determine if a Bose Einstein condensate. Although the 26 photomultiplier tubes available, currently only one in the lab has been tested, the signal in each channel always has some form of noise. This noise is heavily the result of light diffracting from the scintillator, and on lesser occasions, the scattering of gamma rays inside the scintillator. Data analysis should yield the proper inverse matrix that eliminates noise from the data, giving the original signal.

Empowering a Marginalized People: Mexican Migration Narratives and Life Satisfaction

Aimee Alvarez
Faculty Mentors: Dr. Ed de St. Aubin, Psychology

This study utilized a mixed-methods approach to explore the migration narratives told by Mexicans/Mexican-Americans and how they relate to life-satisfaction. The main purpose of the study was to identify how participants who reported low satisfaction with life versus those who reported high satisfaction with life author one’s immigration narrative. Utilizing the satisfaction with Life Scale (SWLS), a measurement for overall life satisfaction was attained for each participant. Researchers employed data from a sample of 137 Mexicans/ Mexican Americans from Milwaukee County. Exemplars from the data, the low 22%, or those who reported the least satisfaction with their life and the high 22%, those who reported high satisfaction with their life, were chosen for examination. The exemplars were used to explore intra group similarities (commonalities within the high group or within the low group) and inter group differences (between the two groups). The results support that individuals who scored high in the SWLS were more likely to narrate in ways that demonstrate strong self-efficacy, a recurrent mention of gratitude, and stories with more adversity. This study took on an emic approach, allowing for a more in-depth investigation on how the immigration stories told by Mexican/Mexican-American people of Milwaukee capture meaningful differences in satisfaction with life.

Keywords: narrative identity, life stories, Mexican migration, life-satisfaction, culture

The Perceptions of Latina Undergraduate Students at a Private and Religious University on Persons living with HIV/AIDS

Olanrewaju Awosika
Faculty Mentor: Dr. Angelique Harris, Social and Cultural Sciences

The Perceptions of Latina Undergraduate students at a Private and Religious University on Persons living with HIV/AIDS

According to the Centers for Disease Control and Prevention, cultural factors among Latinos may contribute to stigma or fear of discrimination, which adversely affects the risk of HIV infection. The current study investigates how Latina undergraduates perceive others who are seropositive for HIV or have AIDS. A qualitative approach consisting of 10 interviews that averaged 22 minutes each was used. The interviews were then manually coded, using line by line coding, to determine the participants’ view on others living with HIV/AIDS, and what factors influenced their viewpoints. Rather than testing a hypothesis, a grounded theory approach was used for data analysis. Themes that emerged included: media outlets as a major factor shaping their perspectives, minority influences of cultural beliefs on perception, HIV/AIDS knowledge occurred Pre College, a lack of HIV education in the home and at the university level, and no religious influence on perception. These findings are significant in that, contrary to religious belief and participation as a factor shaping perception, (Varas-Dias et al. 2013) the perceptions of the Latina undergraduates are shaped by media’s influence and cultural beliefs and values.

Post College Success in Careers for FGCS and Low Income Students

Amanda Banks
Faculty Mentor: Dr. Kevin Tate, Counselor Education and Counseling Psychology

The purpose of the study is to investigate the experience of first generation low-income college students (FG LCS) who have achieved career success as college graduates. There is little research on FG LCS regarding post college career success. Collecting data on the success of these students after graduation can help improve the way educational institutions run support programs for this population. This will also confirm that institutions themselves are producing students who are able to compete in the professional world and have a successful career. Data collection focused on FG LCS who have 5 years or more postgraduate experience in order to explore how these individuals have achieved career success beyond college in hopes of better preparing FG LCS for successful careers.
American Studies.

enroll in a Ph.D. program May 2016, Taylor plans to Choir. After graduation in ber of the MU Gospel Association and a mem- quette and has been both opportunity Program at Mar- She is a 2014 graduate of studying psychology and Taylor Bland is a senior

The purpose of this study is to understand why (particularly) educated African American/ Black women are the least likely to marry or obtain a lifelong partnership compared to women of all other races in the United States, despite their interest in marriage and ro- mantic relationships. In investigating this phenomenon, researchers use the conceptual framework of intersectionality as employed within the pre-marriage dating experiences and perceptions of college educated, African American/Black women. Researchers used the qualitative method of guided, open-ended interviews to examine the dating experi- ences of seven heterosexual, African American/Black female undergraduate students entering their fourth or fifth year at Marquette University—a private, Jesuit institution lo- cated in the Mid-West region of the United States. While interviewees indicated an over- all interest in dating, most held reservations towards doing it on Marquette’s campus be- cause they felt especially “limited” due to their race or the intersectionality of their race and gender. Their experiences with stereotype threat internal to and external of Mar- quette’s small Black community, feelings of low-desirability, partner incompatibility and an overall narrow dating pool was found to contribute to subjects indicating Marquette as somewhat a proactive hindrance on their undergraduate experiences with dating and romance.

Wisconsin Emergency Detention Procedures for People with Dementia are Poorly Developed and Unfunded

Sonia Escamilla
Faculty Mentor: Dr. John Bennett, Biological Sciences

Over five million people are living with Alzheimer’s here in the United States, a problem on the horizon that is assured to continue to grow and affect people across the country, even more specifically locally in my homeland of Wisconsin. With the growing elderly population who experience Alzheimer’s disease and other forms of dementia, the expected affected population to suffer from Dementia has risen 71% since 2010. In these regards coming across patients who have these diseases, the issue is determining the capacity of the patient. The main purpose of this research is to investigate Wisconsin state law, specifically chapters 51, 54 and 55 that re- volve around the rights and protection of people with Alzheimer’s and other forms of dementia. The exploration of these constituents will help address the challenges that are faced when attempting to protect Alzheimer’s and their rights under law. This research will take a deeper consideration of the fluctuation of the disease to appropriately put in place boundaries and laws around this population. In order to have adequate laws that will be suitable to address Dementia patients, the data that will be used will be past case studies as well as past trials that have gone through Wisconsin law and passed verdict in regards to people with Alzheimer’s and other forms of dementia.

Is it worth it? Should Men’s College Basketball Players Remain in College After One Year?

Is It Worth it? Should Men’s College Basketball Players Remain in College After One Year?

Jabari Clifton
Faculty Mentor: Dr. Felicia Miller, Graduate School of Management

This study will argue whether or not men’s college basketball players should forgo their college eligibility to pursue an NBA career, or to remain in college for a longer period of time. The study will utilize a mixed-methods approach to analyze the trends between classes of college students jumping into the NBA, how where their college’s conference is located may impact draft status, international players being drafted, the rare case of a Development League player being drafted, and an assessment on the careers of four players due to their fascinating career paths. It will also look into literature related to one-and-done players – freshmen who would leave college after one season – and their career outlook, along with the impact these players have on their colleges (including revenue, graduation rates, and recognition by the media). The rationale be- hind choosing this topic was the heavy focus the media gives freshmen compared to upperclassmen and the debate of whether or not college basketball players should spend more time in college, as the NBA is currently exploring its eligibility requirements.

Training a Typical-Developing Peer to Enhance the Social Skills of a Child with Autism Spectrum Disorder

Dana Fernandez
Faculty Mentor: Ms. Wendy Kruger, Speech Pathology and Audiology

Children with autism spectrum disorders (ASD) have deficits in social communication skills which impact their ability to form relationships with peers. It seems natural to sug- gest that intervention to enhance the social skills of children with ASD should include child-to-child interactions. This study integrated peer-mediated intervention into the speech-language therapy of a young child with ASD during varied play activities. It compared the effectiveness of an untrained peer with that of a peer who was trained specifically to stay in optimal proximity, use effective means to gain attention, model turn-taking and sharing, and maintain communicative attempts/ interaction with the pri- mary subject. Comparisons were made to measure the subject’s awareness of and re- sponsiveness to each peer and key nonverbal and verbal communication behaviors. Comparisons were also made in the rate of frequency of specific supportive behaviors exhibited by the trained and untrained peer. There were no differences in the effective- ness of the trained vs. untrained peer in increasing the frequency of targeted social skills in the subject. There was a significance difference between peers in the frequen- cy of use of one targeted supportive behavior. Over the course of the study, the subject showed instances of targeted behaviors, however, suggesting that utilizing peers in therapy provides valuable opportunities for children with ASD to apply key social com- munication skills.

The “Other” ... Women?: A Qualitative Study on the Effects of Race on Black Women’s Dating Experiences at a Predomi- nantly White University

Taylor Bland
Faculty Mentor: Dr. Marcia Williams, Social and Cultural Sciences

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Is it worth it? Should Men’s College Basketball Players Re- main in College After One Year?

Jabari Clifton
Faculty Mentor: Dr. Felicia Miller, Graduate School of Management

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Jabari Clifton is a senior

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ADHD and Internalizing Symptoms in Latino Youth: Role of Acculturation

Jaqueline Galindo
Faculty Mentor: Dr. Alyson Gerdes, Psychology

Prevalence rates of Attention Deficit/Hyperactivity Disorder (ADHD) in Latino youth have been estimated to be similar to or slightly higher than those of European American youth (Eiraldi, Mazzuca, Clarke, & Power, 2006). However, research regarding the rate of comorbidities and the role that acculturation plays in Latino youth diagnosed with ADHD is limited. The current study examined the descriptive data regarding the reported rates of internalizing symptoms (e.g., anxiety and depression) in Latino youth diagnosed with ADHD. Additionally, the study assessed the correlations between youth-reported acculturation, youth-reported anxiety and depressive symptoms. Data used in the current study were gathered as part of a larger study comparing standard ADHD treatment to culturally adapted treatment in a Latino sample. As part of the intake process, participants filled out three self-report measures assessing acculturation along with anxiety and depressive symptoms. Findings demonstrated that this sample of Latino youth reported average to high average depressive symptoms along with moderately problematic anxiety symptoms compared to the normative sample. Additionally, the sample reported moderate levels of orientation to both mainstream U.S culture (ARMS-2 AOS) and Latino culture (ARMS-2 MOS). No statistically significant correlations were found between youth-reported acculturation and either anxiety or depressive symptoms. Future studies should examine the relationship between acculturation and anxiety and depressive symptoms in Latino youth using a larger and more ethnically diverse sample.

Changes in Peripheral Blood Flow Following Neurological Injuries

Karen Gibbons
Faculty Mentor: Dr. Allison Hyngstrom and Dr. Tayna Onushko, Physical Therapy

Background: After suffering from a stroke or spinal cord injury (SCI) blood flow to the paralyzed legs could be impaired due to the loss of neural activation of the muscles and decreased overall physical activity. The purposes of this pilot study were to (1) quantify the hyperemic response to mechanical occlusion in individuals with chronic stroke and SCI; (2) relate changes in blood responses to clinical measurements of function; and (3) examine the consistency of measurements produced by the Doppler Ultrasound. Methods: Reactive hyperemia was assessed using the Doppler ultrasound by collecting images modeling the hyperemic response to occlusion in stroke patients and the hyperemic response to cold pressor tests in spinal cord injury patients. A novel software algorithm was used to calculate the peak blood flow and velocity. Blood flow measurements were compared with clinical measures of leg function. Results: Femoral artery peak flow velocity in response to occlusion was 27% less in the hemiparetic limb of stroke patients. Femoral artery peak flow volume was 14% less in the parietic leg of spinal cord injury patients in response to cold pressor tests. Clinical values of function in the non-parietic leg positively correlated with peak flow velocity in stroke patients.

Hmong Refugees in the Wat Tam Krabok Resettlement Camp: Interaction among the Actors that Lead to a Hidden Decade

Xiong Her
Faculty Mentor: Dr. Terrance Miller, Office of International Programs

This case study traces the migration of Hmong refugees after the Vietnam War until the Wat Tam Krabok (WTK) period, Phra Phutthabat, Saraburi, Thailand, 1992-2005. Interviews with Hmong group leaders and members of the International Organization for Migration (IOM), a non-governmental organization, and review of the literature reveals the failures of the international community to conform to international protocol and to address the needs of Hmong refugees. Significant failures include the U.S. failure to support the Hmong refugees after the UNHCR withdraw in 1992 and the Thai government’s failure to recognize the Hmong WTK camp as a “legal refugee” camp and treating the Hmong refugees as “illegal immigrants.” Luang Por Chamrong, the Abbot of the WTK, however, stepped in to care for the Hmong when the international community would not. According to humanitarian duty, countries have a responsibility to protect refugees. The noncompliance of nation states with international norms in the case of Hmong WTK created devastating consequences for Hmong refugees. Furthermore, the absence of communication among all actors—the Hmong, Luang Por Chamrong, Thai Task Force S46 Army, the UNHCR, the United States, and IOM—created mistrust and apprehension that resulted in some Hmong refugees refusing to resettle when doing so was in their interest. Each of these pieces—the absence of communication, lack of trust, noncompliance with international norm and humanitarian duty to care, and reluctance to recognize and support allied relationships—created the hidden decade in the Hmong refugee experience.

An Examination of Influential Factors for Bystander Intervention in Sexual Situations

Veronic Kozaczka
Faculty Mentor: Dr. John Grych, Psychology

Sexual assault is a significant problem on college campuses. Efforts to reduce sexual violence by targeting potential perpetrators or potential victims have not proven to be very effective, and more recently, interventions that target potential bystanders have become more prevalent. The association between sexual assault rates on college campuses and bystander intervention has recently gained a great deal of attention; however, because this is a fairly new research field, a consistent and effective way to prevent sexual assault or rape. The current study examined several factors that might influence participants’ willingness to intervene. This includes, but is not limited to, intervening actions and bystander attitudes before, during, or after a risky sexual situation that may lead to sexual assault or rape. The current study examined several factors that might influence participants’ willingness to intervene: gender, participation in Greek life and organized athletics, and knowledge about sexual consent. To test the hypotheses, the intervention was designed to enhance bystander knowledge, efficacy, and bystander behaviors were assessed before the video and in a one-month follow-up survey.
Highly Superior Autobiographical Memory (HSAM) and the Influence of Attention, Inhibition and Obsessive Compulsive Tendencies: A Case Study

Markie Pasternak
Faculty Mentor: Dr. Kristy Nielson, Psychology

Highly Superior Autobiographical Memory (HSAM), formerly known as hyperthymesia, is a rare condition of memory where individuals have the ability to recall events from their personal pasts that happened up to decades ago with high accuracy and detail, often times including the specific date of the event. Our subject, KV, is a 21-year-old female undergraduate student from the Midwest United States. Our study is based off of the first case study done on HSAM (McGaugh 2006) to include clinical tests in memory, cognition, and language along with a clinical interview. KV was diagnosed with Obsessive Compulsive Disorder, which our study shows has connections to her autobiographical memory abilities. Family members were also tested, but little similarities were found. KV’s results were very similar to others with HSAM on most memory and cognitive tasks. We found that her attention may be impaired due to her condition, which is a new finding among this population. Similarities were also found between our subject and the subject from the 2006 case study, including similar scores in inhibition and many environmental factors around age eight to twelve, when HSAM started to develop in both individuals. Further research can be done to understand more about the development of HSAM, along with its connection to Obsessive Compulsive Disorder and its effect on attention by conducting case studies on other individuals with HSAM.
Reintroducing Women to Philosophy

Anna Strong
Faculty Mentor: Ms. Kimberly Engels, Philosophy

This qualitative research project highlights the underrepresentation of females within philosophy. The main focus was on eleven female philosophers who proved to be influential during the seventeenth through the twentieth century. The selected philosophers were: Hannah Arendt, Mary Astell, Elisabeth of Bohemia, Simone de Beauvoir, Margaret Cavendish, Anne Conway, Catherine Trotter Cockburn, Hypatia, Iris Murdoch, Edith Stein, and Mary Wollstonecraft. These women contributed theories pertaining to the major philosophical concepts, which include: main ideas, free will, mind/body theory, metaphysics, and ethics. Special emphasis was put on Hannah Arendt for the purpose of this project. She is one of the included influential philosophers who was, and still is, often neglected in intellectual philosophical conversations. Data collected included correspondences, transcripts, as well as primary and secondary sources. These sources were thoroughly analyzed and deciphered for meaning prior to being coded and categorized. Through the completion of this process it was concluded that a textbook would best solve the stated issue by not only reintroducing influential philosophers from the western canon, but also by including their theories in a comprehensive way that will aid both professors and students in grasping a better understanding of the included theories for the purpose of teaching and learning about the contributions of these neglected female philosophers.

Anna Strong is a junior double majoring in English, and Criminology & Law. Anna is a recipient of the Gates Millennium Scholarship. After graduation in May of 2017 she plans to pursue a graduate degree in English.

General Self-efficacy and Mental Health among Latinos: Influences of Acculturation

Karina Sánchez
Faculty Mentor: Lucas Torres, Ph.D., Multicultural Psychology

It is important to understand the factors that contribute to psychological difficulties in the Latino population due to its fast growth in the United States. Relatively little is known about the extent to which general self-efficacy impacts the Latino community and their mental well-being. Past research has examined different forms of self-efficacy, such as decision-making, academic, or career-related. Rather than measuring situation-specific beliefs, it is essential to investigate a more generalized form of self-efficacy in order to assess the strength of an individual’s belief in his or her own ability to respond to different or difficult situations. The current study sought to examine general self-efficacy among Latinos, as well as acculturation, in predicting anxiety and depression. Data was gathered from 118 participants at local community events in the Midwest. Through conducting statistical tests and analyses, such as hierarchical linear regressions and correlations, significant results showed that general self-efficacy was negatively associated with Latino orientation. It was also found that general self-efficacy was statistically significant in predicting depressive symptoms. These findings highlight the importance of investigating the general role self-efficacy plays in Latinos’ mental well-being.

Karina Sánchez is a senior majoring in Psychology. Karina is a recipient of the Ignatius Scholarship, Kearney Memorial Scholarship, as well as the Ramirez Foundation Scholarship. After graduation in May 2016, she plans to pursue a Ph.D. in clinical neuropsychology.