A Woman Presidential Candidate: Will the Milwaukee Latino Community Support Her?

Diana Arroyo
Faculty Mentor: Dr. Lowell Barrington, Political Science

The presence of traditional stereotypes of U.S. women is one factor that contributes to the lack of political efficacy and political leadership among the female population. In the Latino community, this is further enhanced by the “Machismo” phenomenon. Although political scientists have studied the challenges facing female political candidates, little research work has been done on this topic within the Latino population. This study looks at how the “Machismo” culture in the Latino community can affect supporting female candidates and, ultimately, election outcomes from the local level to the presidency. It takes a multi-method approach, using the 2006 Latino National Survey (LNS), interviews of elite community members and politicians who are involved in the Milwaukee Latino community, along with a focus group of eligible voters from the Milwaukee Latino area. Analysis of these different data lead to clear results. Latinos in Milwaukee and nationally are more supportive of female candidates based on a combination of demographic and attitudinal factors. Important attitudes include broader cultural expectations regarding women and tolerance in areas other than gender. Attitudes about female candidates are also related to the individual’s political participation. Important demographic factors include the sex of the prospective voter, as well as that person’s age, income level, and level of education. These results have important implications for understanding Latino political attitudes on the topic of gender and how they can influence future presidential elections.

African American Women's Perceptions Related to Childbirth Readiness: Centering versus Traditional Prenatal Care

Janelli Barrow
Faculty Mentor: Dr. Karen Robinson, Nursing

Background: Perinatal health care disparities are prevalent in the United States between African American women (AAW) and other races. African American women tend to access prenatal care later in pregnancy in comparison to Caucasian women, resulting in a higher risk for inadequate prenatal care and infant mortality (Mikhail, 2000; Ward, Mandl, Ngui, Bridgewater, & Harley, 2012; Child Trends Databank, 2013). Disproportionate infant mortality and prenatal care utilization rates have resulted in a national push to endorse and implement interventions that promote early, adequate, and consistent prenatal care among AAW. Previous research has not compared AAW’s prenatal care experience (traditional or group) during and after the perinatal period. Purpose: Thus, the purpose of this study is to gain a better understanding of AAW’s perceptions of childbirth readiness based on their prenatal care experience. Method: One hundred twenty-five AAW will be recruited for this mixed-method study. Participants will be asked to complete a demographic questionnaire at the initial meeting and a Prenatal Care Satisfaction Questionnaire during their 3rd trimester and after pregnancy. Furthermore, the first 10-15 mothers who deliver will be asked to participate in an individual phone interview in which they will further discuss their prenatal care experience and what impact their care had on their readiness for pregnancy and childbirth. Content and thematic analysis will be used to analyze interviews and develop themes. Findings: It is anticipated that the findings from this research will provide insight what impact PNC have on how AAW perceive their readiness for childbirth.

The Influence of Multi-Sensory Environment on Physiological Response in Children with Autism Spectrum Disorders and Children with Special Health Care Needs

Rawan Atari
Faculty Mentor: Dr. Amy Van Hecke, Psychology

A research study based on the sensory integration theory was conducted to examine the effects of multi-sensory environment (MSE) on physiological arousal in children with autism spectrum disorder (ASD) and special health care needs. Adapted environments may serve as a mechanism to treat anxiety levels in a population of children who experience more severe generalized anxiety symptoms than typically developing children. The sample consisted of children with community-based diagnoses of ASD and children with special health care needs, primarily children diagnosed with cerebral palsy (CP) from the Milwaukee Center for Independence (MCFI). Treatment for the autism sample was carried out by a trained MCFI staff member and treatment for children with special health care needs was carried out by a trained physical therapist. Electrodermal response was used as a measure to detect the “fight or flight” response of the sympathetic nervous system. The measurement of electrodermal activity was recorded by a wireless bracelet device that recorded the skin conductance level of the participant prior to entering the sensory room, during treatment in the sensory room, and after exiting the sensory room. Results indicated increased arousal in children with CP, as sensory stimulation was the main goal of physical therapists. Results for the autism sample varied by participant and indicated that treatment needs to be individualized for optimal benefits. Findings support the use of MSE as an alternative technique to improve therapeutic opportunities for children with cerebral palsy by stimulating sensations that are otherwise generally dormant.

Sensorimotor Adaptation of Speech Through a Virtually Shortened Vocal Tract

Brittany Bernal
Faculty Mentor: Dr. Jeffrey Berry, Speech Pathology and Audiology

The broad objective of this line of research is to understand how auditory feedback manipulations may be used to elicit involuntary changes in speech articulation. We examine speech sensorimotor adaptation, to supplement the development of speech rehabilitation applications that benefit from this learning phenomenon. By manipulating the acoustics of one’s auditory feedback, it is possible to elicit involuntary changes in speech articulation. We seek to understand how virtually manipulating participants’ perception of vocal space affects their speech movements by assessing acoustic variables such as formant frequency changes. Participants speak through a digital audio processing device that virtually alters the perceived size of their vocal tract. It is hypothesized that this modification to auditory feedback will facilitate adaptive changes in motor behavior as indicated by acoustic changes resulting from speech articulation. This study will determine how modifying the perception of vocal tract size affects articulatory behavior, indicated by changes in formant frequencies and changes in vowel space area. This work will also determine if and how the size of the virtual vocal space affects the magnitude and direction of sensorimotor adaptation for speech. The ultimate aim is to determine how important it is for the virtual vocal space to mimic the talker’s real vocal space, and whether or not perturbing the size of the perceived vocal space may facilitate or impede involuntary adaptive learning for speech.

Readiness: Centering versus Traditional Prenatal Care

Janelli Barrow is a senior majoring in nursing. Janelli is a Bill and Melinda Gates Scholarship recipient. She likes traveling, reading, and spending time with family. After graduation in December 2015, she plans to pursue public health (focus on women’s health) and nursing.
Alcohol Use Tendencies and Depressive Symptoms: Influences of Acculturation Status, Ethnic Identity and Nativity Status in Mexican American Adults Living in the United States

Claire Bird
Faculty Mentor: Dr. Lucas Torres, Psychology

Currently, Latino-Americans account for 17 percent of the total population in the United States and now rank as the largest ethnic minority group in the country. With the expanding population of the Latino community in the U.S. having such a strong relation to negative alcohol affects, it has become a growing area of research to understand the reason behind this problem. Previous research has identified a multitude of possible stressors and hardships that Latinos living in the U.S. must face (Dillon, De La Rosa, Sastre, Ibáñez, 2013; Black & Markides, 1993; Picany & Guarnaccia, 2007). The current study sought to understand the relationship of the stressors of acculturation, ethnic identity status and depression on alcohol use tendencies among Latinos while also considering gender and nativity status as buffering variables. Participants included 440 self-identified Mexican American Latinos. Data was gathered from subjects in local community centers and events in the Midwest. Individuals were given a packet of measures and received a gift card as compensation. Through conducting hierarchical regressions and moderation analyses, significant results revealed that Latino orientation was associated with alcohol use with the presence of nativity status as a moderator. It was also found that gender served as a buffer between alcohol use and depressive symptoms in that women are less likely to drink while experiencing depression. These findings highlight the circumstances in which the cultural influences of acculturation, ethnic identity and nativity status contribute as protective or risk factors in alcohol use tendencies.

U.S. Residing Arab Women’s Experiences of Weight Gain and Loss During Childbearing

Ayia Dahir
Faculty Mentor: Dr. Karen Robinson and Dr. Jennifer Ohlendorf, Nursing

Throughout a woman’s pregnancy, weight gain is a natural process her body experiences. The amount of weight gained through a pregnancy varies from woman to woman. Excessive weight gain throughout a pregnancy leads to difficulties in postpartum weight loss. When a woman does not lose her pregnancy weight before the postpartum period has ended, she has an increased risk of obesity and other medical problems. In order to assist women who are either pregnant or going through the postpartum period with issues related to weight gain or loss, we need to understand the beliefs and attitudes that women have in regards to weight and pregnancy. The perceptions towards weight gain during the prenatal period and weight loss during the postpartum period may vary among races. Women in different cultural groups vary in their body size and weight-related values and perceptions. Many research studies have examined childbearing weight management among African American, Caucasian, and Hispanic women. Arab women’s childbearing weight-related beliefs and practices have thus far not been studied. This study will focus on understanding the experiences Arab women have with childbearing weight by conducting narrative interviews. Each interview will last approximately 45-60 minutes. Arab women will be recruited at a local mosque, clinic, and learning center using brochures and flyers. Once a woman completes the recorded interview, the researcher will transcribe the interview in order to identify themes. These results will ultimately allow healthcare providers to design culturally appropriate cares for Arab women.

Breaking the Cycle: An Examination of Environmental, Cognitive, and Emotional Factors of Intimate Partner Violence Victimization in Adolescence

America Davila
Faculty Mentor: Dr. John H. Grych, Psychology

Recently, intimate partner violence (IPV) has gained considerable attention as a significant social and public health problem affecting not only adults but also adolescents. Based on the social learning theory, considerable research has supported a significant link between growing up in a violent home (DV) and youth dating violence. Expanding on previous studies, the present study explores the intergenerational transgression of violence using data from 1,067 adolescents (ages 18-25). We examined whether parental support, dating attitudes, and self-esteem are risk and protective factors of receiving dating aggression. Descriptive statistics showed that approximately 8 out of 10 adolescents have received dating violence at least once in the past year. In addition, we find support for the well-documented link between domestic violence and current intimate partner violence victimization. Self-esteem and the acceptance of dating aggression attitudes were also significant unique predictors of IPV victimization. The findings indicate that exposure to aggression in the family, low self-esteem, and the acceptance of dating aggression are significant risk factors while high self-esteem and paternal support appear to protect adolescents from the cycle of IPV victimization.

Predictive Modeling for Finding Cut Off Values of Serum Marker CA 19-9 For the Prognosis of Pancreatic Cancer

Derek Gutierrez
Faculty Mentor: Dr. Mehdi Maadooliat, Mathematics

The purpose of this study is to find a cut off value for serum marker Carbohydrate Antigen 19-9 at diagnosis as well as the percent change of Carbohydrate Antigen 19-9 during treatment that can predict whether or not a patient diagnosed with pancreatic cancer will complete all therapy for resection. Potential cut off values have been found in previous studies, but continue to be disagreed upon due to the various procedures in which such cut offs were found. As a result, poor prognosis for pancreatic cancer continues to exist among those diagnosed. To accomplish the task at hand, three different predictive models are applied to a data frame consisting of 230 patients. Patients are then classified into one of two classes based on particular predictor variables. Predictive performance for each model is then measured by the area under the curve criterion using receiver operating characteristic curve analysis. Moreover, respective threshold values given along the curve are recorded that give various potential cut off values corresponding to both Carbohydrate Antigen 19-9 levels and percent change in Carbohydrate Antigen levels. Results from the study show that a cut off Carbohydrate Antigen 19-9 level between 160 and 190 Units per milliliter may possibly predict complete resection and that positive and negative percent change of Carbohydrate Antigen 19-9 consists of no difference in overall survival. Solidification of Carbohydrate Antigen 19-9 being a good predictor is crucial as the study will influence how pancreatic cancer is looked at in terms of future treatment for patients.
Why Can’t We Be Friends? Platonic Relationships in Disney Animated Films

Lauren Guzman  
Faculty Mentor: Dr. Pamela Hill Nettleton, Communications

This study examines depictions of platonic relationships between male and female characters in three Disney animated children’s films—Lilo & Stitch, Finding Nemo, and Wreck-It Ralph—and uses narrative analysis to identify thematic similarities across the three texts. Past scholarship has studied depictions of gender roles in Disney films including gender roles within romantic and parental relationships; however, no scholarship on gender roles within platonic friendships exists (Booker, 2016; Dundes, 2001; England, Descartes, & Collier-Meek, 2011; Gilliam & Wooden, 2008; Jann 1997; Wynns & Rosenfeld, 2003). This study is significant because media representations of gender play a partial role in the gender role socialization of children (Gerbner, 1998; Wynns & Rosenfeld, 2003; Baker-Sperry, 2007). According to social learning theory and cultivation analysis, media is an institution of socialization because of its presence in people’s daily lives (Gerbner, 1998; Baker-Sperry, 2007). This study finds that male-female platonic friendships in these films are partially egalitarian in that both provide some physical rescue and emotional support to each other. However, these representations of platonic relationships depict male characters as having more power than females, indicating hegemonic masculinity and male privilege are present even in platonic relationships in children’s films. Male characters hold authority over whether their friendship with their female friend will last, whereas females are left to cope with the decisions of the males. This is concerning because the characters in these films and their behaviors can be modeled by the children that watch them.

Chicago Public Housing Demolitions and Individual Sense of Political Belonging

Connor Hooper  
Faculty Mentor: Dr. Amber Witschowsky, Political Science

Brian Jacob and other scholars have pointed out how public housing in inner city areas has affected labor supply, student achievement, and sense of belonging. However, little research has been conducted on how such particular public housing developments have shaped political orientations among low-income residents. The purpose of this research is to understand whether or not the individuals’ experiences with public housing demolitions across Chicago have affected voting participation, civic engagement, and political interest and efficacy among African-Americans who in the past have lived or currently live in Chicago public housing. Over 35 Chicago public housing residents who were either forced to relocate or who chose to move on their own prior to federal plans for demolition were surveyed. Findings were analyzed by utilizing STATA. The evidence suggests that relocation does not impact political engagement among residents who were forced to relocate; however, analyzing mean scores of survey data that measured voting participation in the 2012 presidential election, local elections, and congressional elections in 2014, residents who were forced to relocate voted at lower levels and were likely to vote at lower rates in the 2014 congressional elections. Also, residents who were forced to relocate demonstrated more neighborhood trust and tended to do favors for their neighbors at higher levels than residents who were not forced to relocate. In addition, evidence suggest that residents who had better than average experiences with Chicago public housing were more political efficacious than residents who had worse than average experiences with public housing. This research ends with a discussion of policy implications explaining how residential mobility impacts voter turnout rates and necessary steps to resolve such issues.

Ethnic Micro-Aggressions and Depression Among Latinos: Nativity, Acculturation, and Education as Contributing Factors

Celeste Hernandez  
Faculty Mentor: Dr. Lucas Torres, Psychology

Previous research has focused on the qualitative analysis of experiencing ethnic microaggressions among racial/ethnic minority groups. However, there is a lack of research in regards to experiencing ethnic microaggressions and the mental health implications these subtle forms of racial/ethnic discriminations may be causing targeted individuals. The present study focuses on the Latino population and their experiences with ethnic microaggressions in relation to experiencing depressive symptoms. In addition, this study seeks to find if factors such as acculturation, nativity, and education play a significant role in experiencing ethnic microaggressions. Two hundred and thirty-three participants were recruited from community events. Results found that experiencing a large amount of ethnic microaggressions is related to higher depressive symptoms. Participants’ nativity and education were not contributing factors to experiencing more or less ethnic microaggressions. Moreover, gender served as a moderating variable between the relationship of Anglo-orientation and experiencing ethnic microaggressions, second-class citizen and assumptions of criminality, and exoticization/assumptions of similarity ethnic microaggressions. These results suggest that experiencing ethnic microaggressions may have a detrimental outcome in individuals’ mental health. In addition, individuals’ gender and acculturation may have an impact in experiencing ethnic microaggressions. Further research suggestions and implications are discussed.

Contraction-Induced Arousal on Recent Memory in Persons with Multiple Sclerosis

Nailah Johnson  
Faculty Mentor: Dr. Alexander Ng, Exercise Physiology

Cognitive functioning, including memory, is a problem for many people with multiple sclerosis (MS). Contraction-induced arousal (CIA) has been shown to improve memory (Nielson, 1996; Nielson, 2014) but has not been studied in persons with MS. In this study, a calibrated handgrip dynamometer was used to induce arousal in 12 persons with MS between the ages of 20 and 65 to activate the sympathetic nervous system. Sym pathetic activation can help increase mental alertness for improvement in learning and memory consolidation. Two 15-item word lists of highly concrete and imageable nouns were the testing tools for multiple retention tasks. These retention tasks included an immediate recall, delayed recall, and recognition test that were used to measure retention performance. This was a within-subject analysis for each individual for the entire data collection. The MS Functional Composite and other MS-related participant health data were collected to clinically characterize our subjects. Questionnaires and an MS-related webinars or video of the subject’s choosing were administered during a 45-60 minute period after the word list had been shown and second contraction had been performed. This time was used for data collection and to provide adequate time for consolidation of information into recent long-term memory. Each participant visited the lab twice: one visit where CIA was used and another where it was not. Our expected results are that CIA will improve recent memory in persons with MS.
The Influence of Faith on the Psychosocial Well-Being of Mexican Americans

Edwin Medina
Faculty Mentor: Dr. Ed de St. Aubin, Psychology

The purpose of this study is to examine the relationship faith has to the eleven dimensions that constitute psychological and social well-being. Though there is an existing body of literature concerned with the relationship between faith and well-being, the work examining this relationship among the Hispanic population is limited. With Latinos now constituting the single largest minority population in the United States, we employed data from a sample of 137 Mexican Americans from Wisconsin. We examined the relationship faith salience and religious behaviors have on six dimensions of psychological well-being (Ryff, 2014) and five dimensions of social well-being (Keyes, 1998). Correlations show a significant negative relation between faith salience and autonomy, environmental mastery, and social acceptance. Religious behaviors show a significant positive relation to autonomy and a significant negative relation to social actualization, and social integration. Previous works suggest a positive relation between faith and well-being, but our findings provide results contradictory to the literature concerning this relationship.

Applying John Hagan’s Power-Control Theory to Gender Differences with Drug Abuse

Christina Nelson
Faculty Mentor: Dr. Darren L. Wheelock, Criminology and Law Studies

Previous work has indicated that young men and women engage in drug use in distinctly different ways and for different reasons. This research tests Hagan’s Power-Control Theory to examine gender differences in adolescent drug use. This study analyzes randomly selected subsample of data from the National Survey on Drug Use and Health (NSDUH). Questions that led this study were asked: Do patterns of drug abuse differ by gender? To what extent can Hagan’s Power-Control Theory explain this? Control variables looked at gender, age, and race. All adolescents were from the ages of 12-17. Dependent variables looked at drug use (ever, yearly, monthly). Drugs examined were: marijuana, crack, heroin, methamphetamine, pain relievers (not medically obtained), and any illicit drug. Instrumental variables looked at parental monitoring in order to apply Power-Control Theory. Employing bivariate tests of association, this study finds that there is a significantly low correlation between certain types of adolescent drug use and Power-Control Theory. Variables that proved to be statistically significant were: Heroin Ever Used and Past Year Use, Methamphetamine Past Month Use, Any Illicit Drug Ever Used, Parents Check if Homework is Done, Parents Limit Time with Friends, and Amount Adolescents Argue with Parents. Results also showed that monitoring TV and checking homework would lower the likelihood of adolescent drug abuse. Further research is needed and future research may correlate better with Hirschi’s Social Control Theory.

Hollywood and the Mammy: Enduring Stereotypes for African-American Actresses

Anna Ogunkunle
Faculty Mentor: Dr. Pamela Hill Nettleton, Communication

In the 86 years of the Academy Awards, fifteen African-American actors have won an Academy Award for roles including slaves, witches, and musicians. Only seven African-American women have won an Academy Award. Two of these women won the Best Supporting Actress award for playing similar roles, the mammy. This study examines the progress of a stereotypical role, the mammy, played by Hattie McDaniel in Gone with the Wind (1939) and Octavia Spencer in The Help (2011). The goal of this study is to compare the mammy role in Gone with the Wind and The Help and observe the changes and development of the role between 1939 and 2011 by focusing on four developed themes. The themes are clothing, comic relief, relationship with the white family and personal life of the character. A narrative analysis with framing theory is used to analyze similarities and differences between the two films. Through this research, the author hopes to demonstrate the lack of progress in the representation of African-American women and the continuation of negative stereotypical roles played by African-Americans in film.

Cultural Integrity and American Indian Higher Education: The Voices of Four Oglala Lakota Women

Laree Pourier
Faculty Mentor: Dr. David M. Nowacek, Sociology

The purpose of this qualitative study is to understand the educational perceptions, motivations and experiences of four young women from the Pine Ridge Indian Reservation in South Dakota. Using theoretical frameworks focusing cultural integrity and higher education persistence among American Indian students, data was collected through semi-structured, open phone interviews and analyzed with qualitative processes of reflection and the drawing of prevalent themes from the participants’ stories of their higher education experiences. The findings of this study suggest that the education and career goals of young adults from Pine Ridge are often shaped by their personal social, cultural and educational experiences and their recognition of the social, economic and cultural need in their home communities. This research brings awareness to factors that have allowed these young women to persist in education programs, including financial support, family support, college preparatory programs, cultural engagement, and American Indian student support initiatives at their colleges and universities. Culture was revealed as especially influential in guiding the participants’ goals and their determination to graduate from college so that they could become contributors to the preservation of Lakotah culture and to social and economic development in Pine Ridge. Cultural engagement through American Indian student associations and educational support programs also proved to be a prevalent theme of success in the stories of these four young women. These findings could inform greater understanding of how American Indian young adults formulate their education, career and life goals and the need for culturally relevant higher education support programs.
Factors that Support College Success for First-Generation, Low-Income, African American Female College Students

Monica Purifoy
Faculty Mentor: Dr. Kevin Tate, Education

A significant portion of research focused on the persistence of first-generation low-income college students (FGLICS) is unwarranted; it has most highlighted factors that contribute to academic failure of FGLICS and college dropout, rather than academic success and degree attainment. Even though first-generation low-income college students (FGLICS) typically receive less guidance from their parents, whom did not earn bachelor’s degree, they are a growing population on college campuses. In comparison to their peers who are non-first-generation and are of a higher income, however, this population typically performs at a substandard rate and is less than likely to earn their bachelor’s degrees. With researchers only focusing on the unpromising future of FGLICS, the reasons why they experience academic failure are well noted, while degree completion and academic success within this population is rarely noted. Being that the strengths of FGLICS are overlooked by researchers, the ways in which those strengths can be enhanced have barely been addressed. Using qualitative methods, this research explored the internal and external factors that push FGLICS toward academic success. Three major factors that were found include: positive influences; self-perception of strengths and skills; and things that motivate these students. The results of this study will add to the foundation for future research on FGLICS and work as a reference in aiding this population toward academic success.

Histological Techniques for the Sex Determination of Skeletonized Human Remains

Kaelin Rapport
Faculty Mentor: Dr. Norman C. Sullivan, Anthropology

Determining the sex of skeletons is problematic in forensic and bio-archaeological research. Past studies demonstrate that bone cells can sometimes contain preserved sex chromosomal material in ancient samples. The sex chromosomes in skeletal remains may allow determination of sex in non-adults. The problem is explored by making 20µ thin sections stained with hematoxylin eosin. The dye highlights inactive X chromosomes (Barr Bodies) of females. The presence of the Barr Body is an indicator of female with an accuracy of greater than 99.9. This approach to identification of sex in unknown skeletons has been demonstrated with remains of individuals deceased as long as 25 years. Intact bone cells have also been observed in Neandertal and Sauropod fossils and likely contain sex chromosomes. The degree to which bone cells preserve in archaeologically derived skeletal remains is explored here. A sample of 22 thin sections was created and examined for intact bone cells. The survivability rate of bone cells in this sample is 12. Exposure to moisture facilitates bacterial activity and this is noted to be the single most important variable in determining the degree of preservation of histological structure. This technique has the potential of providing an accurate means of determining sex in non-adult skeletons. This will greatly assist forensic investigators and open new research trajectories into life-ways and life experiences in past populations.

Adversarial Allegiance in Sexually Violent Person Commitment Evaluations: An Exploration of Thematic Differences in Wisconsin Evaluations

Jessica Sandoval
Faculty Mentor: Dr. Mary Ann Farkas, Criminology and Law Studies

The current study explores adversarial allegiance in sexually violent person civil commitment evaluations in the State of Wisconsin. Sixteen evaluations were read and analyzed by two researchers. The state used eight of the sixteen as evidence and the defense used eight as evidence. Both the state and the defense evaluations referenced the same eight offenders. In order to explore adversarial allegiance, researchers used grounded theory to explore thematic differences between state and defense evaluations. The study contrasts the state views with the defense views and describes fourteen emerging state themes and nine emerging defense themes. Examples of state themes include a diagnosis of Antisocial Personality Disorder, a focus on sexually deviant thoughts, a depiction of the offender and offenses as violent and positive language regarding actuarial instruments. In contrast to those state themes, defense themes included Antisocial Personality Disorder rejected as a qualifying mental disorder, an offender’s return to normal sexual desires, an emphasis on an offender’s positive release plan and negative language regarding actuarial instruments. Examples of such language from the evaluations was coded to indicate which themes were the most prominent. The themes suggest that in these civil commitment evaluations, the state and defense hold relatively stable beliefs that are revealed through the language used by expert witnesses in evaluations. One potential explanation for such differing themes may be adversarial allegiance. The study contains implications for the process of civil commitment and suggests future directions for research regarding adversarial allegiance.

Histologically, the survivorship rate of bone cells in this sample is 12. Exposure to moisture facilitates bacterial activity and this is noted to be the single most important variable in determining the degree of preservation of histological structure. This technique has the potential of providing an accurate means of determining sex in non-adult skeletons. This will greatly assist forensic investigators and open new research trajectories into life-ways and life experiences in past populations.
Using Humanoid Robots for Reading Comprehension Intervention

Darryl Ramgoolam  
Faculty Mentor: Dr. Andrew B. Williams, Electrical and Computer Engineering

Robots are no longer science fiction and are becoming more of science reality. It is not unrealistic to expect to see robots in the classroom and home environment. With this goal in mind this pilot study was done to see how 3rd graders interact with 1on1 time with a robot that will try and coach better reading comprehension. The robot used is an Aldebaran Nao robot. By using Choregraphe software and a paired reading model, students interacted with the robot in a classroom setting. Five 3rd graders from St. Anthony School had four sessions with the humanoid reading coach. In each session the student read a passage out loud with the robot. The robot would stop the interaction to ask the student questions about the reading or to do activities like underlining the main idea. After each session students answered multiple-choice questions about the passages. The results showed that there was no significant improvement in reading comprehension. However, there were some interesting trends; students average quiz scores after interacting with the robot was higher than when they didn’t interact with the robot. Also two students showed steady improvement after multiple sessions with the robot. Students responded positively to the robot, and rated it a perfect ten for fun and engagement. These results found in this experiment suggest further experimentation should be done. Thanks to this pilot study we found some improvements that can be made to the experimental design and we have some interesting topics that require more investigation.

Factors Determining Recidivism Rates among African American Juvenile Males

Ashley Truss  
Faculty Mentor: Dr. Louise Cainkar, Sociology

The juvenile correctional system (JCS) was adopted in the United States to rehabilitate juvenile offenders in the country to be assets to society. That ideology has evolved over the centuries however, in part because African American male juveniles were not having their needs met to be re-integrated as assets to society. Existing research produces findings about why African American males recidivate, such as socioeconomic status, social disorganization and the lack of adequate programming, leaving the population of rehabilitated African Americans, an understudied group. This study was conducted to learn the factors that differentiated rehabilitated from non-rehabilitated African American males to inform the JCS about rehabilitation and to suggest possible amendments to the generic rehabilitation process so it can positively affect all juveniles. Snowball sampling was used in the study to find willing participants that would meet the sampling requirements. The study found that neighborhoods are not as important to influence recidivism as lack of economic means, negative influences, and adequate time to recuperate in rehabilitation. In further studies, one could incorporate more detailed questions such as length of time doing continuous illegal activity before capture and criminal actions induced by criminal coaching.

Darryl Ramgoolam is a Senior majoring in Biomedical Engineering, emphasis in Biocomputing, Darryl has won 3rd place in the Institute of Electrical and Electronics Engineers (IEEE) Region 4 paper contest. After graduation in May 2015, he plans to pursue research in Human Robot Interaction or Robotics.

Ashley Truss is a senior majoring in criminology and law studies with a minor in psychology. Ashley enjoys reading books and volunteering at the Boys and Girls Club. After graduation in May 2015, she plans to pursue a Masters program in social work.