



## **Student Research Conference**

### **Online Oral Abstracts**

**Thursday, February 17, 2022**

- Health, Nutrition, and Clinical Sciences
- Behavioral and Social Sciences
- Natural Science
- Education and Social Sciences

# Health, Nutrition, and Clinical Sciences

**Carlos Mora**, Graduate Student

*Empowerment or Endangerment? An Examination of Social Media Use in Healthcare Organizations*

Faculty Mentor: Rui Sun, Public Administration

Health care nonprofit organizations (HCNPOs) are organizations whose activities focus on influencing public policy regarding health, providing consultation, training, fundraising, medical treatments, and other health-related support, and conducting research on health issues. The COVID-19 pandemic has provided HCNPOs with both challenges and opportunities, for example, in terms of disseminating timely information about COVID-19 and combating misinformation, addressing patients' concerns and proving healthcare services safely and efficiently during the lockdown. Social media as a two-way communication tool could play a vital role in addressing these challenges.

This study aims to identify the social media strategies used by HCNPOs during the COVID-19 pandemic. The research questions are: (1) How does the pandemic influence the integration of social media in HCNPOs? (2) Does social media improve the organizational effectiveness of HCNPOs? (3) Does social media empower the organization's stakeholders, in particular, the public they serve?

Previous studies have summarized social media use for health-related purposes such as health interventions, health campaigns, medical education, and disease outbreak surveillance (Chen & Wang, 2021). However, most studies focused on health care professionals, patients, and the public, rather than from an organizational perspective. This study intends to fill the research gap by analyzing a survey conducted on 100 HCNPOs in California.

The survey questionnaire includes 30 multiple-choice and open-ended questions. Data are analyzed using mixed methods. The regression analysis uses the effectiveness of social media use as the dependent variable, social media marketing strategies as the independent variable of primary interest, and other characteristics of the organizations as control variables. In addition, responses from the open-ended questions are analyzed using a qualitative approach. The findings will not only contribute to both the public administration and marketing literature but also provide valuable resources for nonprofit leaders.

**Christine Feld, Nicholas Fernando**, Graduate Student

*Exploring Culture Misconception and Fear of Retribution as Barriers to Reporting Elder Abuse Among Undergraduate and Graduate Nursing Students*

Faculty Mentor: Sally Mahmoud, Nursing

According to the National Council on Aging (2021), one in every ten Americans aged 60 and up has experienced a form of elder abuse, with estimates of up to five million elderly being abused yearly. Additionally, one study found that only one in twenty-four cases of abuse is reported to authorities (National Council on Aging, 2021). Moreover, mandated reporters, including registered nurses, may be hesitant to report elder abuse, for fear of misinterpreting various cultural practices as abuse. The purpose of this study is to explore whether cultural misconceptions and fear of retribution are identified barriers to reporting elder abuse to the authorities.

A cross-sectional, descriptive, quantitative design using a convenience sample of 107 nursing students from the undergraduate (68%) and graduate (32 %) nursing programs at Cal State University Dominguez Hills. Students voluntarily completed a 46-question online survey during Spring-Fall, 2021.

Based on the survey results, 42% of students responded (agree and strongly agree) that they have a fear of reporting elder abuse due to cultural practices and misunderstanding. Moreover, 20% of students reported fear of retribution from the abuser if they reported their findings to the authorities. While 87% of participants perceived elder abuse as a problem in the United States, the results formulate the basis for further analysis into the understanding of the phenomenon of the under-reported cases of elder abuse.

Based on the study results, it is proposed that conducting analysis between barriers of reporting elder abuse and cultural misconception can yield further understanding into the under-reporting nature of elder abuse. Nursing schools can include specific elder abuse assessment education and training. This implementation can address barriers to reporting and create assessment questions to help rule out misconception in cultural practice."

**Jennifer Robbins, Andie Cano, Monica Craft, Catherine Cummings,** Graduate Student

*Occupational Justice for Women Survivors of Intimate Partner Violence*

Faculty Mentor: Sheryl Ryan, Occupational Therapy

Intimate partner violence (IPV) is a public health matter entailing various forms of abuse, predominantly affecting women. Two types of social institutions engage with IPV women survivors, government agencies and community-based organizations. We designed this study to explore how these interactions either facilitate or impede meaningful participation in life and wellbeing. Researchers utilized a qualitative narrative approach with two study participants who were interviewed. Interview transcripts were analyzed by the researchers who then met to distill the following themes: met and unmet needs, trauma-informed approach, establishing safety, impact on roles, community support, and access to resources. In general, government agencies failed to approach survivors with an understanding of the dynamics of abusive relationships and often failed to respond appropriately, endangering survivors and negatively impacting their mental health and meaningful roles in life. Community-based organizations, such as domestic violence shelters, were effective in providing for physical needs, a sense of community and access to resources, however they also at times did not do enough to support survivors with the mental health care and resources they needed. These gaps are spaces in which occupational therapists can help to ensure justice for survivors by promoting their ability to partake fully in safe and healthy lives via universal, group, and individualized interventions. These include advocacy for trauma informed approaches, ensuring access to resources, and bridging the gaps between the needs of IPV survivors and the services that they employ.

**Rebecca Moore, Yevgeny Medalle, Rachel Lee**, Graduate Student

*Exploring Occupational Participation in LGBTQIA+ Individuals Following the Coming Out Process: A Narrative Study*

Faculty Mentor: Sheryl Ryan, Occupational Therapy

Positive and negative outcomes result from disclosure of gender and sexual identity, as experienced by the LGBTQIA+ population. There is a lack of research with this population and their ability to participate in meaningful activities after coming out.

**Purpose:** This study aimed to explore the effects of disclosing sexual and gender identity on participation in meaningful activities.

**Methods:** This qualitative narrative study was conducted with 8 participants through Zoom. Photo elicitation and participant responses to interview questions were analyzed into codes and formed into themes.

**Results:** Themes included experiences before and after coming out, engaging in activities to process or distract, relying on peer support, feeling free to participate in meaningful activities, conflicting ideals, and changes in identity acceptance.

**Discussion:** Coming out did not influence participants' abilities to engage in meaningful activities, however changes in perspectives, identity, and contexts were noted. Occupational therapists can help LGBTQIA+ individuals navigate negative outcomes of coming out through meaningful activities.

## Behavioral and Social Sciences

**Jennyfer Ibarra**, Undergraduate Student

*Southern California ESL High School Teachers: Examining Curriculum Placement and Implicit Bias with Latinx ESL Students*

Faculty Mentor: Alfredo Gonzalez, Chicana and Chicano Studies

This study measures how public high school educators in Southern California are conducting curriculum placements for immigrant-origin Latinx students. These programs may include general courses as well as English as Second Language (ESL) curriculum programs. Using Grounded Theory, a methodology used to construct a theory through the data analysis, this study utilizes qualitative interviews with educators to better understand how ESL students are placed into these programs and therefore provide adequate support for students to enter general courses. Additionally, this study employs an Implicit Association Test to measure the bias that educators may have towards students. The study is in the data collection phase and is conducted remotely through the Zoom application. Initial findings include four participants that have shown an extent of implicit bias through the IAT. Findings also include that the rationale of placement comes through the high school institution through a form filled out by the parents. The study provides insight on how immigrant-origin Latinx adolescents are perceived by public school educators in Southern California.

**Maria De La Toree**, Undergraduate Student

*E-cigarette Reduces Apoptosis in Prolonged Latent Breast Tumors*

Faculty Mentor: Shehla Pervin, Biology

Electronic Cigarettes, also known as E-Cig or Vapes were launched into the retail market in 2007 as a potential benefit or alternative for cigarette smokers to stop their addiction. E-Cigarettes are battery-powered devices that heat liquids to an aerosol to deliver stimulant nicotine to users without any burning. Since they were introduced E-cigarettes have become accepted amongst all ages, but have become increasingly more popular among youth. (1) Additionally, many studies have shown that the effect of e-cigarettes is similar to that of traditional smoking on multiple organ systems and diverse cell types. Traditional cigarette smoking is known to contribute to the progression of various cancers including breast cancer. A study conducted by k. Pham showed that e-cigarette with nicotine could reduce apoptosis and increase the metastatic potential of triple-negative breast cancer. Breast cancer is not only a single disease, it is heterogeneous with many subtypes where many different cells play a role in its development. Triple-negative breast cancer is an aggressive and heterogeneous subtype of breast cancer with low survival rates and has poor clinical outcomes. In this study, we show the effects of e-cigarette with and without nicotine on triple-negative breast cancer cell lines MDA-MB-468 and HCC70 using a xenograft model. The MDA-MB-468 cell lines have shown an increased rate of apoptosis and prolonged latency. Most interestingly, xenografts exposed to the e-cigarette with and without nicotine have shown reduced levels of apoptosis and increased growth compared to saline control. Our results indicated that in MDA-MB-468 cell lines, e-cigarette switched pro-apoptosis to anti-apoptosis via the activation of two key genes CFLAR (CASP8 and FADD-like apoptosis regulator) and XIAP (X-linked inhibitor of apoptosis). However, fast-growing HCC70 xenos did not show a significant change in their expression levels with vapor exposure.

**Yesenia Gonzalez**, Undergraduate Student  
*Impacts of Racism and Discrimination on Mental Health*  
Faculty Mentor: Giacomo Bono, Psychology

Racism has been described as a hierarchical ideology used to classify and rank social groups to enforce white supremacy (Bonilla-Silva, 1996). Different treatment (discrimination) toward people of color, has been found to affect victims' health (Williams, 2018; Williams & Mohammed, 2013).

The study examines the impacts of racism and discrimination on mental health outcomes (stress, anxiety, and depression) among Latinx, Asian, and Black college students. College students (N = 156) took a survey to examine different behaviors and the impacts of discrimination on mental health. We used part of the sample to create approximately equal size groups for each of the racial/ethnic groups. We analyzed whether White students experience less discrimination than minority students during the pandemic and whether experiences of discrimination predict mental health outcomes more for minority students than white students.

**Claudia Blandino**, Undergraduate Student  
*First-Year Pandemic: Virtual Learning Experiences In the K-12 System*  
Faculty Mentor: Corina Diaz, Sociology

The research that I conducted was to capture the perception of virtual learning through the parents perspective during the beginning of the pandemic in 2020-21 period. The way I was able to conduct my research was by interviewing 10 subjects with a set of questioning in which different demographics were incorporated and different school districts as well. My research was completed in November 2021 and presented my completed work in the California Sociological Association Annual Conference on November 12.

**Lauren Castillas**, Undergraduate Student  
*A New Wave of Linguistics*  
Faculty Mentor: Iara Mantenuto, Education

This study assesses the current teaching of linguistics at the high school level (Bucholtz et al. 2015, Lidz & Kronrod 2014, Loosen 2014, McKee et al. 2015, Plackowski 2020) proposes an alternative curriculum that centers the experiences and the communities of the student population. A relevant introductory linguistics course is essential for high schools because students learn how language is a core element of human development and identity. Contrary to current research (Larson et al. 2019), which proposes a survey introductory linguistics course centered on syntax, morphology, phonetics, phonology, semantics, and pragmatics; this study highlights the importance of social and cultural aspects of linguistics and why they are crucial for first-year high school students, such as introduction to linguistics, history of language, language acquisition, sociolinguistics, raciolinguistics, educational linguistics, careers in linguistics, and computational linguistics are more attractive to K-12 students.

The presentation (i) addresses previous proposals (ii) presents an alternative curriculum rooted in raciolinguistics ideology by exposing students to a variety of languages and languages that are associated with their identity; eliminating "subtractive approaches to language diversity" (Flores & Rosa., 2015, p. 150). Subtractive approaches are different ways of controlling language diversity in classrooms by increasing competence in Standard English (Flores & Rosa, 2015). Thus, a curriculum must value diverse linguistic backgrounds to achieve educational justice. The developed introductory linguistics curriculum is divided into three central units, providing the teaching objectives, enabling objectives, topics for each lesson, assignments, assessments, and materials. Finally, the presentation (iii) offers a portfolio for high schools and an outreach plan.

This study advocates the importance of teaching linguistics in a manner relevant to the students by centering their identities and lived experiences with hands-on experience studying Language, giving them the opportunity to learn already in high school about a growing field with a 9.6%+ employment in SoCal.

## Natural Science

**Kirsten Clerre Rafanan**, Undergraduate Student

*The Particle Size and Shape of Hydroxyapatite in the Presence of Fish Antifreeze Protein and Chondroitin Sulfate*

Faculty Mentor: Sen Wang, Chemistry and Biochemistry

Drugs for osteoporosis include estrogens, selective estrogen modulators, and bisphosphonates. Concerns have been raised about serious side effects from the long time term use of the above drugs. We will explore the effect on the hydroxyapatite crystal (the model of bone) morphology in the presence of the combination of antifreeze protein and chondroitin sulfate at different molar ratios and concentrations. The effect from the different molar ratios and concentrations of the mixture has been also studied. The molar ration of 1 vs 6 combinations of the fish antifreeze protein ( $2.0 \times 10^{-6}M$ ) and chondroitin sulfate can greatly decrease spaces in the honeycomb for osteoporosis as a potential drug. Our results will provide valuable insights into the mechanism of the key additives for biominerals and bring new osteoporosis drugs with the least side effects.

**Alexis Widmann**, Undergraduate Student

*Corona Coloration of Encelia Farinosa*

Faculty Mentor: Sonal Singhal, Biology

*Encelia farinosa*, commonly known as the brittlebush plant, is a plant found in Mexico and the southwestern states of the United States. *E. farinosa* has been found to exhibit a variation in coloration of the corona in different geographical environments. In the southern region of California, *E. farinosa* has a yellow corona. Into Mexico, *E. farinosa* is found to have a brownish black corona. Using a genetic dataset of 46 individuals of *E. farinosa* and field observations of 112 localities, we are exploring the genetic basis for this color variation and the environmental factors that maintain it. Our study will help us understand the genetic basis and potential adaptive role of corona color in *E. farinosa*.

Our field observations have been compiled into 15 geographic groups based on geographic similarities. The 15 geographic groups displayed a gradual transition from yellow corona *E. farinosa* in southern California to black corona *E. farinosa* across the Mexican border. A two population hypothesis best fits the initial genetic data.

Future work will construct principal component analysis of the genetic variation of our 46 individuals. The results of this analysis will help us further understand how genetically similar our black and yellow individuals are.



**Carlos Zuniga**, Undergraduate Student

*Examining Genetic Signatures Fast and Slow Growing Tumors in African American Triple-Negative Breast Cancer*

Faculty Mentor: Shehla Pervin, Biology

Tumor initiation and progression is a complex process involving many complex mechanisms among which pro-inflammatory interactions appear to be clinically significant. These interactions brought meaningful attention to these complex molecular crosstalks between tumor cells and the host's immune cells in the microenvironment. Stark genetic differences between two African American Triple Negative Breast Cancer cell lines, MDA-MD-468 and HCC70, were suggested by our *in vivo* studies. We found that MDA-MB-468 displayed slow growth phenotype and HCC70 displayed a more aggressive phenotype that resulted in accelerated tumor growth. We analyzed xenograft tissue morphology via immunohistochemistry and immunofluorescence. We also examined the expression of pro-inflammatory secretions via immunoblot analysis and RNA sequencing. Upregulation of MCSCs/ESCs markers coincided with more aggressive behaviors in tumor progression. Where we observed upregulation in MCSCs/ESCs markers in HCC70 xenografts and reduced expression in MDA-MB-468 xenografts. We also observed pro-tumor activities in HCC70 xenografts such as immune evasion. These observations highlight the tumor microenvironment as a path to determine key immune or pro-inflammatory players from both cancer and host origins that may promote immune evasion from infiltrating cytotoxic T-lymphocytes for accelerated tumor progression. To understand whether the tumor cells are the main driver of aggressive phenotype, or both tumor cells and host are required for tumor-promoting inflammation to drive progression. Our lab's commitment is to further characterize these key protein secretions and receptors that play an essential role in eliciting an immune response for both anti-tumor and tumor-promoting activities for tumorigenesis.

**Arman Izadifar**, Undergraduate Student

*Digital Forensics*

Faculty Mentor: Mohsen Beheshti, Computer Science

With digitization, opportunities for cybercrimes have increased. Digital forensics gathers digital evidence from cybercrime. This evidence, if not authentic and accurate, is inadmissible in court. Secondly, the advancements in information technology have strengthened anti-forensic techniques.

The study comprises two parts. It surveys literature to study digital forensics technology. It highlights the types of cybercrimes, digital forensic tools (hardware/software), and techniques used. It explores the strengths, weaknesses, legal issues, and challenges it faces fighting cybercrime. The second part of the study performs a forensic analysis of two cybercrime scenarios. The underlying aim is to cover all the steps of the digital forensic process i.e. data collection, analysis, and presentation. One scenario involves using the pre-existing digital forensic tools to perform the analysis. The second scenario involves building a tool customized to help an ongoing investigation.

When online, the perpetrator's history, documents, and media files downloaded get stored on the device. Existing forensic tools are for general purposes. Their performance depends on how well their technique coincides with the case needs. Sometimes, tools can be created for a specific analysis scenario. Secondly, when the data to process is huge, it is helpful to utilize artificial intelligence techniques instead of manual processing. For instance, data from social networking sites can be analyzed faster with sentiment analyzers.

Digital forensics is a reliable technology that is used in courts to prove the guilt or innocence of a cyber-criminal. Digital evidence presented must be valid, accurate, authentic, and convincing. The investigators, prosecutors, and judges must have the required technical skills.

## Education and Social Sciences

**Maria Torres** Graduate Student

*Waiting for Education Desegregation? How to Drop Out Factories Produce Juveniles into Prison*

Faculty Mentor: Jen Stacy, Liberal Studies

Education in America has been established as the stepping-stone to more significant opportunities, social mobility, and opportunities into an established career. For several students, a path to college starts with which track system the school offers (AP, AVID, GATE, Magnet classes, etc) and the school's zip code, which determines school funding. Wealthier neighborhoods equal well-funded schools that track students into successful ivy league colleges and create several opportunities for successful students. Nonetheless, these elite-rated schools are in affluent areas with a high percentage of White students privileged to earn an educational journey filled with opportunities for success. On the other hand, only a tiny percentage of students of color in lower-income neighborhoods struggle to get tracked into college preparation classes, and a high percentage of lower-income students of color end up in regular classes or behavioral classes, which starts the molding of the “throwaway child,” which are the students pushed through each grade level knowing less and less throughout the years; thus, leading into the school to prison pipeline. In this research, I will analyze the continued education segregation using the critical race theory framework, illustrating how segregation has led to drop-out factories that produce juveniles into the prison system. This research will incorporate the history of America’s educational reforms, racial and class inequalities in American education, and the steps of the school-to-prison pipeline (STPP) that have left students of color helpless to the system. Finally, I offer the results of scholars committed to advocacy in breaking the cycle of drop-out factories and interrupting the flow of young Black and Brown students who are heading into the pipeline.

**Casey Caprioglio**, Graduate Student

*The Mental Health of Medical Interns during the COVID-19 Pandemic: A Mixed Methods Analysis of Gender and Institutional Support*

Faculty Mentor: Kelin Li, Sociology

The purpose of this study was to determine what role, if any, gender had played in the mental health of medical interns during the COVID-19 pandemic. This is a mixed-methods study comprised of secondary survey data from the Intern Health Study conducted by the University of Michigan and primary interview data of two medical interns in 2020. Quantitative data from the 2019 and 2020 cohorts were analyzed using SPSS, and qualitative data were analyzed using thematic coding and analysis. This study shows that the pandemic may exacerbate the mental health disparity along gender lines but not to the extent hypothesized. More important institutional factors, such as familial support in day-to-day tasks and hospital conditions for interns and residents, have been more influential than gender during the pandemic. More research is needed to observe the long-term mental health effects of the COVID-19 pandemic on medical interns.

**Norah Alnassar**, Graduate Student

*An Investigation of Saudi English Second Language Students' Acquisition Prepositions*

Faculty Mentor: Iara Mantenuto, Education

English as a Second Language students face some difficulties when they try to choose appropriate preposition to use in a sentence (Celce-Murcia 1983). Shakir & Yassen's (2015) preposition study among Iraqi students indicated that the main reason for all the errors is the dominance of the mother tongue (Iraqi Arabic) on the English Language (EL), in particular because of the syntactic mapping of Arabic on EL. Differently from Shakir & Yassen (2015) this study looks closely to the acquisition of Saudi Arabia's Arabic; moreover, it investigates whether the age of acquisition has an impact on the adult proficiency level of use of the prepositions in EL speakers. Following Lenneberg's (1967) critical period hypothesis that language acquisition is an example of biologically constrained learning and that takes place between the age of 2 and puberty, this study investigates whether Saudi EL learners acquiring English prepositions before the critical period perform better than Saudi EL learners acquiring them after the critical period. 103 Saudi Arabic participants took an online questionnaire based on 40 items: 10 multiple choice items, 20 true or false items and 10 socio-linguistic questions. Results indicated the early acquisition age plays a significant role in reducing errors in EL especially when the syntactic grammatical structure of Arabic is superimposed on English. The results also inform the way we might want to approach EL students when teaching them EL and when discussing with them how to overcome some of the difficulties that they face when learning English.

**Kelsie Traylor**, Graduate Student

*CRT and the Fight for K-12 Education*

Faculty Mentor: Katy Pinto, Sociology

Critical Race Theory or CRT has become the Boogeyman in the minds and conversations of Republicans, and CRT is coming to wreak havoc on the K-12 educational system. Republicans are against CRT being taught to children in the K-12 educational system, and they have made it public enemy number one as it relates to educating children. . Kimberle Crenshaw (1981-present), Dr. Cornell West (1973-present), Nikole Hannah-Jones (1998-present), Derrick Bell (1952-2011) and Richard Delgado (1974-present) are all CRT scholars who have thoroughly studied the theory. Nikole Hannah-Jones who has spearheaded this campaign to implement CRT into education and is responsible for the creation of the 1619 Project (Hannah-Jones, 2021). The 1619 Project aims to tell a more detailed version of US History and chattel slavery (Hannah-Jones, 2021). Hannah-Jones believes that the 1619 Project can be used in addition with any history curriculum, to thoroughly teach US History. Hannah-Jones has used qualitative methods to conduct her research and has also reached out to other scholars on the topic of CRT. Some limitations with Hannah-Jones' research is that it is not quantitative, and does not offer any statistical data, to back up the claims that she and others who have contributed to this specific research. The way that I will collect my data is through qualitative interviews with five participants. Each of these participants have expressed that they are willing to contribute to my overall research and are enthusiastic to do so. The findings from this research is the conservatives and Republicans do not want CRT being taught because, it will prove that the U.S. was built on the backs of African Americans and continues to treat African Americans wrong. African Americans have been subjected to the mistreatment of those who uphold white supremacist ideas, which were created by our nation's founding fathers, and upheld by the institutions that the founding fathers have created. Those same white supremacist ideals are still being upheld by institutions, conservatives, and Republican political officials.