Department of Family Medicine & Public Health

2020 Honors Practicum and Capstone Presentations and Poster Session

Celebrating Excellence

Saturday, June 6th, 2020: 11:30am-2:00pm
PROGRAM - Saturday, June 6th

11:30-12:15pm – Honors Practicum Presentations (Host: Dr. Nancy Binkin)

**COVID-19 Perceptions and Behaviors Among Older San Diego Residents**
*Monica Angeles, Ana Arevalo, Katie Litwinski, Alveena Thomas*

**What Students Worry About: A Study of UCSD Student Concerns Following Campus Closure Based on Reddit Postings, March-April, 2020**
*Aisha Asif, Nathaniel Badii, Aina Guatno, Valerie Zhang*

**Promoting Healthy Behaviors through Social Media**
*Michele Phung, Hanna Sahagon, Meera Swaminath, Rabia Syed*

**Return to Learn: To Test or not to Test**
*Erica Chan, Andrew Nguyen, Katie Ramos*

12:15-12:30pm – Break

12:30-2:00pm – Poster Presentations

Group 1: Poster Presentations (Host: Dr. Sarah Linke)

**Stress Levels Among Active Vs. Sedentary Workplaces**
*Andrew O'Brien, Julie Pitney, Victoria Cheng*

Objectives: To analyze the various levels of workplace activity across a range of occupations to determine if sedentary activity in the workplace is correlated with high levels of stress among adults in the United States.

Methods: We conducted a cross-sectional study among 62 individuals age 18-65 to examine the levels of workplace activity and stress levels among working adults in the United States.

Results: The study population consisted of a total of 63 participants (82.5% male) between the ages of 18-35 years old (60.3%). The majority of our respondents were technology workers. We found no significant difference (P=.597) in stress levels between those with sedentary jobs and those with more active jobs and those with more active jobs. We did find that individuals who took more than two activity breaks reported slightly higher stress (P=.035) than individuals who took less than two breaks. We also found an association between higher levels of physical activity with lower stress levels (P=.008).

Conclusions: Our findings suggest a strong indirect correlation between physical activity and stress levels.

Policy Implications: Activity breaks are important, and the number of activity breaks could be a factor to consider when determining health.

**Impact of COVID-19 on Student Self-reported Quality of Life**
*Daniel Aminzadeh, Samantha Clardy, Rocio Ramos, Ana Ventura-Hernandez*

Objectives: To assess whether the COVID-19 lockdown order has affected UC San Diego student’s self-reported quality of life, mental health, physical health, and overall quality of life among college students.

Methods: An online survey was distributed through social media platforms between April and May of 2020. This cross-sectional study consisted of participants responding to an anonymous survey one time, where they answered questions about their life before and during the COVID-19 lockdown. This survey asked participants about their demographics, financial status, and living situation. The quality of life before and during the COVID-19 lockdown was measured using a 1-5 scale, 1 being poor to 5 being excellent.

Results: The mean quality of life (QOL) before the pandemic was calculated to be 3.75. The mean quality of life during the pandemic was calculated to be 2.75. The 95% confidence interval for the difference of means is between (0.69421, 1.30571). Since zero is not a part of the interval, there is a significant difference between the Quality of Life before and during the pandemic.

Conclusion: These students had an overall change in their quality of life so it is important to first acknowledge what is causing the change and why. The main variables are changes in physical and mental health. There were also major changes to individuals’ social and personal relationships.
**Contraceptive Access & Knowledge Among UCSD Students**

*Jasmine Duran, Nighlah Kisswani, April Orozco*

**Objectives:** To compare the levels of contraceptive access and contraceptive knowledge between UCSD students who identify as “students of color” (SOC) and those who do not.

**Methods:** Anonymous online survey completed by 172 UCSD students. We conducted a cross-sectional study examining correlations between race/ethnicity and levels of access to contraceptives and knowledge about contraceptives using cross tabulations. Survey answers were collected from April-May 2020.

**Results:** 57.55% of SOC and 80% of white students reported being slightly to very knowledgeable of contraceptives before attending UCSD. SOC reported an increase of 22.74% and white students reported 12.5% increase in knowledge after attending UCSD. 47.72% of SOC and 62.5% of white students are aware if UCSD offers STI testing (P ≤ .001). 100% of white students and 88.62% of SOC reported neutral to very accessible accessibility to contraceptives.

**Conclusions:** SOC face lower levels of access to contraceptives and obtain less information about contraceptives before college compared to white students.

**Policy Implications:** Future campus health policies should require the development of resources to implement equitable educational and access opportunities.

**An Evaluation on the Standing Strong: Fall Prevention Workshop Administered by Scripps Memorial Hospital - La Jolla**

*Monica Angeles, Ana Arevalo, Katie Litwinski, Alveena Thomas*

**Background:** Currently, 25% of older adults experience a fall each year, costing the US over $50 billion dollars in healthcare expenses. Reducing falls has been identified as a public health priority. The Standing Strong: Fall Prevention Workshop, coordinated by Scripps Memorial Hospital La Jolla, aims to teach older adults about fall risk and fall prevention techniques. An evaluation of the January 11, 2020 workshop assessed knowledge and perception about fall risk, adherence to recommendations, and barriers in completing recommendations.

**Methods:** Workshop participants completed pre-, post-, and one month follow-up surveys that used Likert scales and open-ended questions to evaluate knowledge, beliefs, and attitudes about falls and fall prevention behavior. Physical therapists conducted balance screening tests and classified participants as “fall risk” if they unsuccessfully completed at least one test. Responses were analyzed in SPSS and significance evaluated using Chi square and paired t-tests.

**Results:** Of the 101 participants (range: 50 - 93 years; mean 75 years), 61% were classified as having a “fall risk” based on balance screening. Among the 28 followed at one month, 88% reported increasing their physical activity after the workshop, while less than 40% engaged in the other recommended behaviors (e.g. home modifications, vision checks). When comparing the pre- and follow-up surveys, more participants reported they could protect themselves from an injury (24% versus 39%, p-value: 0.17), and more strongly disagreed that falls are an inevitable part of aging (16% versus 39%; p-value: 0.03).

**Conclusion:** “Standing Strong” reached its intended audience of high fall-risk participants and succeeded in spreading the knowledge that falls are preventable throughout the aging process. Several participants reportedly increased physical activity but had not completed other recommendations. To counter the lack of follow-through with workshop recommendations, the workshop content should be altered to emphasize the importance of adhering to key behavioral recommendations.

**Is There a Positive Association Between Time Spent in the U.S. and Receipt of HIV Testing Among Latinx Migrants at the San Diego – Tijuana Border?**

*Philip Brandes, Madison Campbell, Melissa Nguyen*

**Objective:** To determine an association between time spent in the U.S. and receipt of HIV testing.

**Methods:** We conducted a secondary data analysis from a cross-sectional study on migrant health surveying Latinx migrants at the San Diego-Tijuana border. Data was collected from April to December 2013 with 1,161 participants. Descriptive statistics and independent sample T-test were conducted.

**Results:** Mean age was 40.9 years (SD=13.6), 78% were male, and 21% received HIV testing within the last 12 months. Mean days spent in the last 12 months was 254.2 (SD=135.0), and 16.3 lifetime years (SD=11.6). Both the amount of time spent in their lifetime (p=0.02) and within the last 12 months (p< 0.01) were significantly associated with receipt of HIV testing.

**Conclusions:** Time spent in the U.S. was positively associated with receiving HIV testing, indicating the importance of HIV testing across both borders.

**Policy Implications:** Providing HIV testing is critical for migrants who cross the SD-TJ border.
**Exercise and Perceived Quality of Life**

*Renaissance Majee, Stacy Peralta*

**Objective:** To determine whether exercise has an impact on UCSD undergraduate students’ perceived quality of life (QOL).

**Methods:** We developed a cross-sectional online survey asking about levels of exercise and how that affects perceived QOL. We then distributed the survey to UCSD undergraduate students in the spring of 2020 by posting in student Facebook groups and allowing the academic counselor to email the survey to all undergraduate public health students. 85 participants completed the survey. The survey consisted of questions on demographics, exercise in the last week and perceived QOL, including stress levels, mood, and sleep quality.

**Results:** Among undergraduate students, 96.5% indicated participation in a minimum of 30 minutes of exercise a week. Of those students, 74% rated their perceived QOL as excellent or good. There is an association between exercise and perceived QOL. However, there was no association found between exercise levels and mood, stress levels, or sleep quality.

**Conclusions:** High exercise levels are associated with positively perceived general quality of life and provide UCSD undergraduate students some noticeable positive change in their daily lives.

**Policy Implications:** Our research suggests that UCSD should incorporate a campus wide General Education requirement that requires students to take a weekly hour-long exercise class every quarter.

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**GO TO BED - Turn Off Blue Light Emitting Devices**

*Josalyn Cao, Tabitha Hayworth, Eric Tian*

**Objective:** To identify the association between prolonged exposure to blue light at bedtime and sleep quality in UCSD students.

**Methods:** We conducted a survey between April 2020 and May 2020. 96 UCSD students participated in the survey through social media websites and emails disseminated by the BSPH undergraduate counselor. Students were asked questions regarding their demographics, exposure to blue light, and overall sleep quality.

**Results:** 79.2% of students claim they use their BLEED before going to bed everyday of the week. 57.7% of students are not getting a recommended 8 hours of sleep on the average weekday night. 72.3% of students who spend less than one hour on a BLEED before bed reported having “Excellent,” “Very Good,” or “Good” sleep quality, compared to 50% of students that spent more than 2 hours on their device.

**Conclusions:** It is inconclusive if exposure to blue light before bedtime is associated with overall sleep quality.

**Policy Implications:** Awareness of blue light exposure and its effects should be increased for college students. Further research should be conducted on blue light and its impact.

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**Effects of Caffeine Use on Anxiety Among UC San Diego College Students**

*Jayson Hefner, Nora Jaleel, David Miranda*

**Objective:** To determine if use of caffeine results in heightened levels of anxiety among UC San Diego college students.

**Methods:** Using a cross-sectional design, use of caffeinated beverages (coffee, energy drinks, soft drinks, yerba mate, tea) and their effects on post-use anxiety were assessed in a quantitative style survey. Our study population was UC San Diego undergraduate students. The survey was curated using Google Forms.

**Results:** Across all 5 beverage groups, there was a strong correlation of post-use anxiety, as all significance p-values were <.05. Coffee saw the highest frequency of anxiety post-consumption, followed by energy drinks and tea.

**Conclusions:** Coffee reflected the strongest post-use anxiety levels out of all caffeinated drinks, and had the broadest user base. A majority of respondents thought caffeine availability on campus contributed to increased use. Students responded that there is greater anxiety during the SP20 term, but less perceived caffeine use.

**Policy Implications:** A policy limiting the number of caffeinated products each student can buy per purchase at UC San Diego could translate to less caffeine-induced anxiety.

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**Assessment of UC San Diego On-Campus Food Insecurity and CalFresh Enrollment via Social Media Promotion Initiative Implementation**

*Jocelyn Bernal, Diana Do, Courtney Tijing*

**Abstract:** The Government Accountability Office reports that more than 57 percent of low-income, at-risk, food insecure students are eligible but are not enrolled in CalFresh (food benefits). Eligibility for CalFresh can be confusing to many college students. Even with plenty of resources on campus, many students are still not enrolled in the program. Due to the fact that almost 30 percent of UC San Diego students reported being affected by food insecurity, our purpose was to combat this issue in a way that would effectively impact students’ situations by focusing on the promotion of the CalFresh program. In collaboration with UCSD’s The Hub Basic Needs Center, we aimed to raise awareness of CalFresh eligibility among UC San Diego students by promoting CalFresh, via social media and with the help of UCSD student organizations, through an easy-to-follow visual that contains information on how to apply and an application link unique to UCSD’s The Hub Basic Needs Center. With this link we collected click-counts, and the data retrieved consists of the number of students who applied each month. Since food insecurity can be referred to as a “silent struggle” and addressing it among peers can be perceived as shameful, our promotion campaign easily provided important information and requirements to reduce stigma against seeking help to combat this issue. Essentially, through the implementation of this social media initiative, we were able to increase participation in applying for and enrolling in CalFresh not only to reduce food insecurity, but to improve the overall health of UC San Diego students.
Group 2: Poster Presentations (Host: Dr. Argentina Servin)

Comparison of Los Angeles and Fresno's Relationship with Asthma and Green Space

_Tiffany Cai, Leanna Choong, Katie Huynh_

**Objectives:** To compare green space availability and prevalence of asthma-related emergency department (ER) visits among the urban areas of Los Angeles (LA) and Fresno Counties.

**Methods:** Data from 2010 Census from CalEnviroScreen 3.0 and EnviroAtlas from the EPA was used to compare the two counties’ populations regarding asthma-related ER visits and green space using independent T-tests and Chi-square tests performed through IBM SPSS Statistics software.

**Results:** County blocks considered were 2,343 for Los Angeles and 199 for Fresno; respective population sizes were 9,818,605 and 940,450. Average green space percent was Fresno 32.47% and LA 32.66%. Rate of asthma-related ER visits per 10,000 individuals was: Fresno 76.60 and LA 51.59.

**Conclusions:** Green space availability is beneficial even if not shown to decrease asthma-related ER visits from this research. Analysis shows no clearly related directionality between green space and asthma-related ER visits in Fresno and Los Angeles which differences may be attributed to other factors.

**Policy Implications:** Further research of green spaces as beneficial features in urban communities are highly recommended with more targeted data.

Relationship Between Age of First Sexual Intercourse and Current Contraceptive Use

_Angelica Felix, Joyce Huang, Amanda Tieu_

**Objective:** To evaluate the impact of age at first sexual intercourse on current use of contraception among Filipino women

**Methods:** Using 2017 DHS Philippines survey, we analyzed factors of the current use group to non-use group of contraception by an independent sample t-test, Levene’s test for equality of variances, and t-test equality of means (n= 47244).

**Results:** 46.1% of women don’t use contraception and 53.7% of women are currently using contraception (P<0.001). 54% of married women use family planning methods, and of those women, 21% use oral contraceptives making it the most common method. Although more women use contraceptive methods than non-use, there is still a large population who don’t use contraceptive methods because of incomplete and inaccurate sexual education.

**Conclusions:** The age of Filipino women at their first sexual intercourse did impact their current use or non-use of contraceptive methods.

**Policy implications:** The findings of this project can help health establishments like local clinics promote the use of different types of contraception and provide reliable information to women of all ages.

Assessing the Association Between Purchasing Behavior and Smoking Behavior

_Mohamad Alayleh, Vi Nguyen, Umme Sheikh_

**Objective:** To determine whether purchasing habits are associated with the frequency of e-cigarette use.

**Methods:** Using the 2019 PATH data, a nationwide longitudinal cohort study with 6352 participants, we examined the relationship between direct underage access to e-cigarette retailers and the frequency of vape use within the last 30 days.

**Results:** Participants who had direct access to retailers reported using vape products a mean of 16.8 out of the last 30 days. Participants who had access to e-cigarettes through third parties reported using vape products 8.3 out of the last 30 days. Of the participants that had direct access, 558 responded that they obtained them from a gas station, and 525 reported that they obtained them from an e-cigarette shop.

**Conclusions:** Participants who obtained products directly from retailers consumed over double the amount of e-cigarettes on average than participants who obtained e-cigarettes through third-party sources. Considering the number of underage participants that had direct access to e-cigarettes at gas stations, more stringent preventative action can be taken at the local level to address this.
An Evaluation of the Resident Assistant/House Assistant Training Program on Responses to Residents’ Disclosures of Sexual Assault, Relationship Violence and Stalking

Aisha Asif, Aina Guatno, Silvia Ni

Background: UCSD Resident Assistants/Housing Assistants (RA/HA) are expected to report and refer incidents of trauma such as sexual assault, relationship violence, and stalking. Each fall, three hours of training in recognition and procedures is provided by the Campus Advocacy, Resources, and Education at the Sexual Assault Resource Center (CARE at SARC), Office for the Prevention of Harassment and Discrimination (OPHD) and the Clery Office, which ensures reporting of these incidents to the campus police. We sought to assess whether this training effectively prepared RA/HA for their responsibilities.

Methods: A Qualtrics survey with scenario-based questions and Likert scales was administered in January 2020 to RA/HA; eight RA/HA individual in-depth interviews were also conducted. Quantitative data were analyzed using SPSS; qualitative data were analyzed through thematic analysis.

Results: Of the 214 RA/HA, 156 (73%) responded to the survey. RA/HA were more confident in their knowledge about the role of CARE at SARC (mean 4.4/5) than about the roles of OPHD (3.6/5) and the Clery Office (3.4/5). In a rape scenario, 92% correctly identified that they should refer survivors to CARE at SARC, while 73% knew they had to report to OPHD and 71% believed that they had to file a Clery report. Interviews revealed that RA/HA were better able to remember information when training included role-play activities and that they would like refresher courses and memory aids.

Conclusion: RA/HA are confused about which events require notification to OPHD and Clery and have difficulty retaining information from the training. We recommended 1) more scenarios/role-play activities in the training, 2) conducting refresher training during the school year, and 3) developing an online flow-chart that consolidates the RA/HA’s responsibilities to the three offices.

Objective versus Subjective Cognitive Function in Breast Cancer Survivors

Mariam Hmoud, Mannat Shukla

Objective: To determine whether there is a correlation between objective and subjective cognitive function in breast cancer survivors.

Methods: A secondary analysis was done with data from the Memory & Motion study, which was conducted at the UCSD Moores Cancer Center (2015-2017; n=87). Linear regression models were used to test for correlation between objective and subjective cognitive function scores.

Results: No correlation was found between objective cognitive function and subjective cognitive function scores (r = -0.074, r = 0.166). 37.9% of participants scored above average in objective cognitive function, while no participants scored above average in subjective cognitive function. 17.2% of participants felt that they were below average in cognitive function, while objectively, only 10.3% scored below average.

Conclusions: Subjective cognitive function is not representative of objective cognitive function in breast cancer survivors.

Policy Implications: Subjective cognitive tests should not be used as an accurate description of cognitive function in breast cancer survivors. Resources should be put into conducting only objective cognitive function tests in this population.

E-Scooter Injuries: An Emerging Endemic

Shalene Brooks, Melissa Gomes, Eduardo Juarez

Objective: To determine whether the utilization of public motorized scooters among students at UCSD causes more bodily injuries than alternative modes of transportation.

Methods: We conducted a cross-sectional study among a sample of 81 undergraduate students whom attended UCSD between April and May 2020. Participants were recruited via email which was sent out to UCSD undergraduate public health students. Students reported their mode of transportation on campus during previous quarters, any injuries they might have sustained while using those modes, and their awareness of safety regulations.

Results: Among participants who have used e-scooters to transport on campus, 15% sustained a bodily injury. Among participants who utilized alternative modes of transportation, 31% sustained a bodily injury. 94.74% of e-scooter users reported to never wearing a helmet when they ride. 75.86% of participants who used other modes of transportation reported to never wearing a helmet when they ride. When participants were asked if they were aware of UCSD’s on campus non-motorized/motorized vehicle operating regulations, 40.85% reported that they were not aware and 28.17% were not sure.

Conclusions: There is substantial evidence (p-value<0.005) that there is a positive correlation between riding E-scooters and bodily injuries.

Policy Implications: Designated travel lanes combined with a stronger presence and enforcement of regulations throughout UCSD will further increase safety while riding e-scooters.

The Impact of First-Generation College Student Perceptions on Engagement in Disordered Eating Behaviors at UC San Diego

Yordanos Tesfai, Maria Triplett

Objective: To examine the relationship between being a first-generation college student and perceptions of engagement in disordered eating behaviors due to food insecurity among UC San Diego students.

Methods: We conducted an anonymous cross-sectional online survey created through Google Forms issued between April-May 2020 (n=222). Surveys were circulated through Facebook groups, participating campus partner’s social media, and emails sent out to BSPH students. Exposures examined were first-generation college student identity with associated outcomes being disordered eating behaviors.

Results: Fifty-one percent of participants identified as a first-generation college student and 93.1% identified as an undergraduate. As 50.5% reported overconsumption as a behavior amongst UCSD students, there is statistical significance between first generation identity and this behavior (p value = 0.037).

Conclusions: Amongst first-generation students who experience food insecurity, there is a high perception with engagement of disordered eating behaviors, specific to intentionally over consuming food when accessible.

Policy Implications: Given health implications of disordered eating behaviors, we suggest policy measures to increase funding for affordable food access and basic needs services to support first-generation college students facing food insecurity.
Quality of Life Among College Students

Brenda Alaniz, Anahita Darabpour

Objective: To determine whether the quarter-based system vs the semester-based system impacts the quality of life among college students.

Methods: We conducted a survey using a cross-sectional study design that was posted on social media. We gathered 47 participants.

Results: 44.2% reported that the semester-based system positively impacts students’ overall quality of life, while 53% believe the quarter-based system negatively impacted a students’ overall quality of life. Students believe the quarter-based system is more negatively impactful on the overall quality of life than the semester-based system.

Conclusions: The fast paced academic quarter suggests that students require information and planning in advance that will allow them to organize their schedule and also to prepare for the workload they will encounter.

Policy Implications: Every student enrolled in a quarter-based university should meet with a counselor at least twice to plan out their academic quarter. Meeting with a counselor will ensure that students’ are on the right track, and that they are not taking more than the recommended coursework.

The Implementation of Plant-Based Snacks in the Stress-Free Zone at UC San Diego

Shady Faltaous, Alex Gallardo, Erin Gentry

Abstract: The relationship between plant-based diets and cognitive health has gained a lot of attention in recent years amongst nutritional health experts. To further explore this relationship, a public health initiative aimed at implementing a plant-based diet has been proposed in collaboration with UC San Diego’s Stress Free Zone program. A cost-analysis was developed to assess the feasibility and transition to Mediterranean and plant-based snacks at the Stress-Free Zone program. The cost analysis outlined an achievable way to replace the current snacks being offered by the Stress Free Zone (including processed, Standard American Diet food items) with plant-based snacks, while still adhering to the $300 quarterly budget. In comparing the cost of traditional snacks offered by the Stress-Free Zone with plant-based snack options, we expect higher costs for the plant-based snacks. Therefore, it is also expected that the plant-based options would provide a smaller variety of pre-packaged snacks, but a higher quality of nutritious foods. With a successful transition to plant-based diets, the initiative hopes to improve the mental and physical health of students during the stressful quarter.

Tritons Flourish: Promoting Program Attendance for Online Workshops

Maria Mendez, Shivani Patel, An Phan

Abstract: Under UCSD’s Counseling and Psychological Services (CAPS), Tritons Flourish was created to host workshops and forums focused on helping students cope with stress, learn relaxation techniques and create community bonding. Data provided by UCSD Tritons Flourish Program director indicated initial attendance to workshops has been low. The promotion of the workshops may increase student use of the resources, as it, has given them essential tools for navigating the stressful environment and for facilitating health promotion. Graphics, such as flyers for each event, interactive activities and visuals, were created for promotion and advertised on social media primarily Instagram. Over 40 graduate and undergraduate UCSD student organizations were contacted via email in order to encourage attendance. Promotion of certain workshops were tailored to the student organization such as encouraging cultural clubs to attend specific community forums like Graduate Students of Color and LGBTQ+ organizations to attend the Gay Men’s Relationship Forum. Results were quantified by anonymous polling tools that facilitators administrated, student organization feedback, and social media responses. It is expected attendance may increase through student organization participation. This study can help increase awareness and participation in Triton Flourish as it can be a vital resource for mental and physical wellness as well as provide student club members a resource to stay connected with each other while also gaining valuable skills.

Group 3: Poster Presentations (Host: Dr. Eric Leas)

Access to Antenatal Care in Rural and Urban Regions of Ghana

Nghi Dang, Jessica Nam, Griselda Ruiz

Objectives: To examine the relationship between place of residence and receiving antenatal care in Ghana.

Methods: The 2007 and 2017 DHS Ghana Maternal Health Surveys were used to conduct descriptive and logistics analyses. The data is composed of pregnant women; 728 from 2007 and 1,170 from 2017. A bivariate comparison was used to explore the relationship of urban/rural residence and receiving antenatal care.

Results: The mean age of pregnant women in 2007 and 2017 was 28 and 29.5 years old respectively. Majority of women received a high school education or less. 64.3% of women and 98.5% of women received antenatal care in 2007 and 2017 respectively. Using chi-squared analysis, the relationship between place of residence and receiving antenatal care was found to be significant in both years (p < 0.001).

Conclusions: Although there’s an increase in women obtaining antenatal care, disparities between access to maternal care in urban and rural regions still exist.

Policy Implications: This data can be used to promote policymaking that would decrease the gaps between urban and rural maternal healthcare for Ghana and other developing countries.
Graphic Images on Tobacco Packaging and the Perception of Tobacco Products Among College Students in the United States

*Erica Letzring, Linh Loung, Sarina Chitre*

**Objective:** To determine if there is a relationship between the addition of graphic images on tobacco packaging and the consumption of tobacco products among college students in the United States.

**Methods:** This is a cross-sectional quantitative study, conducted virtually amongst 81 college-aged students. The exposure was the perceived believability of graphic warning labels, and the outcome was perceived effectiveness in decreasing cigarette use. The research team analyzed the data with a Fisher’s Exact Test to determine the significance through the p-value. This test was used in place of the Chi-Square Test, since there were low counts (<5) per category.

**Results:** The majority (63%) self-reported that they know some health effects of smoking cigarettes. Almost all participants (96.3%) reported that college students harm themselves by smoking cigarettes some days but not every day. The p-value for the Fisher’s Exact Test between exposure and outcome is .004, which is statistically significant.

**Conclusions:** There is a statistically significant relationship between the exposure and outcome.

**Policy Implications:** The data supports the mandate of adding graphic warning labels to cigarette packaging.

Prenatal Care, Maternal Mortality, and Religion

*Ekaterina Draganchuk, Ivy Ng*

**Objectives:** To examine the correlation between secularization and women who obtain prenatal health services to determine the link between maternal mortality rates and religion.

**Methods:** Used pre-existing secondary data sets such as Gallup International focusing on irreligious countries, the World Health Organization via the Global Health Observatory data repository for data on antenatal care, and the World Bank for its data set on maternal mortality to conduct a cross-sectional study. Datasets were focused on or near the year 2017, but ranged as early as 1999-2018 using a total of 69 countries. Several countries met the criteria for all three study points: prenatal care access, maternal mortality rates, and religion/irreligion practice percentages in those countries. However, some countries were missing one variable and were still used within the study to gather as conclusive data as possible for the variables available. Using these three criteria, we conducted quantitative correlation between the variables to depict if there is a notable association related to secularization affecting women’s desire to seek prenatal care and if the desire to access or not access antenatal care due to secularization affected maternal mortality rates.

**Results:** The correlation between secularization and maternal mortality is -0.39, and the correlation between secularization and antenatal care is 0.22. The means for the three criteria are following: the mean for maternal mortality is 56.5 per 100,000 live births; 83.15 percent of mothers receive at least four visits for antenatal care; 26.57 percent are surveyed to be irreligious. The standard deviations are as follows: irreligious SD=17.15, maternal mortality SD=126.31, and the antenatal care SD=15.43.

**Conclusion:** From our results, we see that the more secularized the country, the less antenatal care is utilized, which leads to higher the maternal mortality rates. This prompts the need for a policy execution on a national level focusing on countries with the highest maternal mortality rates. This policy will promote an exponential increase in education promotion targeted towards secular women who choose to go without prenatal care.

Assessing the HPV Knowledge and Awareness Gap between Male versus Female College Students

*Maya Rosal, Katherine Velasco, Avianne Villanueva*

**Objective:** To assess whether college females have higher levels of knowledge and awareness about HPV risks than males.

**Methods:** In 2020, our cross-sectional anonymous 27-question survey was completed by 99 UCSD undergraduate students in order to examine overall HPV awareness and risk/shame based on sex. We calculated the mean by sex for the 18-point T/F/IDK awareness quiz, and for IDK responses, this answer was marked as an incorrect response, therefore receiving no points.

**Results:** Our study had a 1:1.36 male-to-female ratio, and on the 18-point awareness quiz, males had an average of 6.6 in comparison to females with an average of 9.9.

**Conclusions:** Many college students still do not know about their potential risks for HPV, with many marking the “IDK” response on the quiz and on the perceived risk/shame.

**Policy Implications:** Our findings suggest that it is imperative to launch an HPV knowledge campaign on college campuses, and test for its effectiveness. Campaigns should focus on unaware populations such as male students to increase health knowledge and informed health decisions.
Let there be light: Evaluation of UCSD Night-Safety Services

Erica Chan, Andrew Nguyen, Michele Phung, Hanna Sahagon

**Background:** UCSD's night safety programs aim to improve student safety, which is becoming increasingly important as the campus expands and becomes more accessible to the community. Programs such as Triton Rides, Community Service Officer (CSO) escorts, emergency blue lights, and Rape Aggression Defense classes have operated for many years, but perception and awareness of these programs has never been assessed. We therefore evaluated lighting infrastructure and student perception of night safety and made recommendations for improvements.

**Methods:** A mobile QuickCapture application was developed to replace paper-based surveys in the Annual Lighting Survey (ALS) which allowed geolocation and photography of safety concerns regarding lighting, construction, foliage, and transit. A 14-item survey regarding perception of campus night safety was administered to undergraduate and graduate students (n = 613). Time location sampling with probability proportional to size was used to select a probability-based sample.

**Results:** Geolocation analysis identified many light fixtures out of service (397), dark spots (104) and obstructing foliage (43) across the campus and housing sites. The student survey found that many students (45%) perceived that campus night lighting is not adequate. Female students were more likely to report feeling unsafe on campus. Additionally, although 49% had used Triton Rides or CSO escorts during the 2019-20 academic school year, first-year students were less likely to have used these escort programs than their upperclassmen peers.

**Conclusions:** The university should improve campus lighting and safety programs to increase student perception of safety. Integration of QuickCapture in future ALS and development of a centralized system for reporting maintenance and repairs is recommended. Including more students in the ALS may increase interest and awareness of night safety issues. Additional measures should be taken to target specific groups of students who feel unsafe on campus to ensure awareness of available campus resources.

Barriers to Helmet Use Among UCSD Student Electric Scooter Riders

Sitong Chen, Harry Chung, Anli Tang

**Objective:** To identify the barriers to helmet use and examine injuries associated with e-scooter use.

**Methods:** We conducted an anonymous online survey created by Google Form. Our target population is current UCSD students (both undergraduate and graduate) and recent graduates. 32 participants completed our survey. The exposure includes reasons for helmets non-use. The outcome includes injuries from not wearing helmets. The survey was conducted from April 28th to May 12th.

**Results:** 15% of participants used helmets during the rides. The most common barriers to helmet use were “don’t own one” (69%) and “never thought of wearing it” (62%). 23% of participants were injured from using e-scooters on campus, and most injuries occurred in arms/hands/palms (30.8%). An increase in recognition of injury risk of helmet non-use raises the probability of future helmet use of e-scooter riders (69%).

**Conclusions:** Improving safety awareness can increase the likelihood of UCSD students wearing a helmet while riding an e-scooter.

**Policy Implications:** Policies and regulations on e-scooter use are needed to include enforcement on helmet use, speed limit, and mandatory safety training courses.

Lack of Mental Health Services Utilization: The Potential Impact of Stigma Towards Mental Illness

Tina Geng, Peyton Phan

**Objective:** To determine whether stigma towards mental illness impacts perceptions of the utilization of mental health services among college students.

**Methods:** We conducted an anonymous online survey created by Google Form. Our target population is current UCSD undergraduate public health students. 92 UCSD students participated in the survey between April and May 2020. Questionnaire items consisted of questions on demographics, stigma towards mental health, and attitudes towards seeking mental health services. A p-value of 0.038 was found between potential stigma and negative attitude towards treatment.

**Results:** A significant p-value indicates that stigma towards mental illness was more likely to increase negative attitudes towards mental health treatment. Conclusions: A negative attitude towards mental health services could explain the low utilization of mental health services among college students.

**Policy Implications:** Programs and policies should prioritize the de-stigmatization of mental illness and mental health to address the gap in mental health service utilization.

Perceptions of Formal Sexual Health Education and Its Impact on Sexual Behavior on College Students

Mariana Carrola, Malia Hawley, Vanessa Howard

**Objective:** To determine whether school-based sexual health education (SE) before college-age increases the likelihood of engaging in healthy sex practices during college.

**Methods:** A cross-sectional online survey was posted on UCSD affiliated social media and emailed to UCSD undergraduate public health students. The survey consisted of questions on demographics, perceptions, and knowledge of SE. 78 survey responses were collected between April and May 2020.

**Results:** 95% of survey respondents think comprehensive SE impacts college students’ use of protection when engaging in intercourse. Of those participants in a school-based sexual health program, 63% believe essential information, such as consent, healthy relationships, sexual abuse, and LGBTQ+ centered education, was missing in many programs.

**Conclusions:** College students believe that SE influences behavior and use of protection in young adults. However, many SE programs are missing important topics in their curriculum. There is a need for universities to reduce knowledge disparities.

**Policy Implications:** The University should provide college students SE learning programs that cover essential sexual health topics to fill gaps in knowledge and reduce risk of engagement in risky sexual health behaviors.
Barriers to Influenza Vaccination Among College Students

Ariana Gonzalez, Kimberly Herrera-Mena, Mckenna Thompson

Objective: To determine possible barriers to receiving influenza vaccination among college students.

Methods: A cross-sectional online survey was emailed to undergraduate Public Health students in May 2020 and posted on UCSD affiliated Facebook groups. Our exposure variable is barriers to obtaining the influenza vaccine and our outcome variable is influenza vaccination. The survey received 65 responses.

Results: Of respondents, 66.2% are on their Parent's health insurance plan, and < 50% were aware of influenza vaccination cost. 69.2% received the vaccine last influenza season. Of those who did not get the influenza vaccination last year, 93.7% reported no awareness of cost and 81.3% reported awareness of where they could obtain the vaccine. The most frequently cited reason for lack of influenza vaccination, 50.0%, was inconvenience.

Conclusions: Many university students remain on their parent’s health plan and are unaware of individualized vaccine costs. Perceived inconvenience is a key barrier to vaccination.

Policy Implications: The UCSD campus needs a targeted information campaign highlighting on/near-campus clinics and emphasizing affordability for students with outside insurance.

The Fight Against Food Insecurity

Evelyne Macias, Jennifer Sernas, Vicente Small

Background: According to the 2018, UC Undergraduate Experience Survey (UCUES) 53% of the students in the University of California, San Diego were identified to be in the high or marginal food insecure category— many of which are students of color from low socioeconomic backgrounds and first generation students. The creation of the Triton Food Pantry (TFP) was established to combat food insecurity at UCSD, but existing obstacles prevent underrepresented students from fully utilizing the resource.

Purpose: The purpose of our focus group discussion was to identify feasible solutions to accessibility barriers at UCSD’s TFP.

Methods: Student participants were recruited with the help of the Office of Academic Support & Instructional Services (OASIS). The Focus Group discussion was held via Zoom and was led with a screen-shared Powerpoint to facilitate a conversation about food insecurity and problems associated with accessibility to the TFP. The participant’s discussion was transcribed by the research team. Afterwards, an anonymous survey, conducted through Survey Monkey, was administered to the participants to collect non-identifiable demographic information. This survey included open-ended questions allowing participants to provide input about their opinions, experiences, and recommendations that were not mentioned during the Zoom discussion.

Results: Students discussed solutions that included changes in hours of operation, creating more pop-up food pantries, and even establishing a type of delivery system. Increasing awareness and having a peer support system is vital to destigmatizing the use of food pantries.

Conclusion: Students’ voices are the key to creating possible solutions, especially the voices of those who are affected by food insecurity the most.

Group 4: Poster Presentations (Host: Dr. Nancy Binkin)

Veterans’ Perceptions on Mental Health Resources Available Through the Veterans Association

Daniela Gonzalez, Gabriella Williamson, Lujayn Zubaidi

Objectives: To examine veterans’ knowledge about mental health resources through the VA and their perception on how these resources can prevent homelessness.

Methods: We used an online survey to collect data from 52 U.S. veterans. Using SPSS, we conducted a Chi Squared analysis to assess awareness of resources. As a way of examining differences in Veterans’ awareness of resources, we looked at sexual orientation and years as a veteran.

Results: 96.2% of veterans had heard of some sort of mental health resource through the VA. Awareness of resources did not differ with years as a veteran (p=0.323). 80.8% of veterans believe stigma is a barrier to accessing resources. 76.9% of veterans believe mental health resources can prevent homelessness among veterans.

Conclusions: Stigma is a barrier to accessing mental health resources for veterans, due to negative attitudes surrounding mental illness. Mental health resources may help prevent homelessness.

Policy Implications: Our results indicate that it may be beneficial for the VA to implement policies that reduce stigma around mental illness and expand availability of resources.

Quality of Life and Perception of Cultural Inclusion Among UCSD College Students

Melissa Chao, Regine Daquigan

Objective: To determine if there is a difference between groups based on their cultural experiences on campus and Quality of Life (QoL) measured among University of California, San Diego (UCSD) college students.

Methods: The QoL and Cultural Inclusion Survey was released in 2020. Using this cross-sectional study design, 82 students were surveyed on their QoL and perception of racial climate on campus, measuring the exposure (college experience) with QoL.

Results: 54.9% somewhat agree UCSD is culturally sensitive, however 46.3% also agree that discrimination is prevalent. Using a Mann Whitney Test, there was no statistically significant difference between majority and minority groups regarding college experience and QoL (p> .05).

Conclusions: The implementation of Diversity, Equity and Inclusion (DEI) courses, multicultural organizations and resource centers are created to address barriers and reduce the prevalence of racial discrimination between the minorities and majority, but it is unknown whether these efforts are effective. Regardless, many students continue to maintain a good QoL despite the prevalence of discrimination on campus.

Policy Implications: UCSD should continue to adjust their DEI guidelines to reflect its diverse student body.
Student Physical Activity and COVID-19 Restrictions

Samantha Dieu, James Furukawa, Arlene Herrera, Phillip Kim

Objective: To determine whether COVID-19 restrictions are associated with the amount of physical and sedentary activity rates among UC San Diego students.

Methods: Using the online Student Physical Activity and COVID-19 Restrictions survey, a retrospective cohort was performed among 52 voluntary UCSD participants, measuring the exposure of weekly physical and sedentary activity before and since COVID-19. The statistics calculated include the mean differences and standard deviation from baseline to follow for both physical and sedentary activity. The outcome was a decrease in physical activity and an increase in sedentary activity.

Results: The mean difference of physical activity before and since COVID-19 decreased 8.1 hours, with a SD of 1.6 hours (p < 0.0001); sedentary activity increased 24.7 hours, with a SD of 10.9 hours (p = 0.0251). On average, walking decreased the most (6.4 hours) and playing video/board games increased the most (7.3 hours).

Conclusion: The COVID-19 pandemic is associated with decreased physical activity/increased sedentary activity among UCSD students. To encourage physical activity, national governmental health organizations should collaborate with health professionals and relevant instructors to promote at-home exercises via social media.

Give a Care, Clean Up the Air! A Study of Air Pollution and Cardiovascular Disease

Noah Hoang, Annie Lei, Jodi Santos

Objective: To examine the spatial correlation between air pollution and cardiovascular disease in California.

Methods: We conducted a cross-sectional study on air pollution measured by standardized CalEnviroScreen scores and cardiovascular disease percentiles in 7,929 California Census Tracts to determine the correlation coefficient from a 2018 CalEnviroScreen study.

Results: The average CalEnviroScreen Score across all census tracts is 29.49 with standard deviation of 19.39. The average cardiovascular disease percentile is 51.02 with standard deviation of 29.33. There was a positive correlation of 0.589 between air pollution and cardiovascular disease.

Conclusions: The positive correlation of 0.589 indicates that high air pollution levels are associated with high cardiovascular disease percentiles. The ten tracts with the highest air pollution were located in Fresno county.

Policy Implications: To impact cardiovascular disease rates, our results inform policies (e.g. carbon taxes) could be effective in limiting PM2.5, ozone, and diesel PM levels that target high pollution areas like Fresno county identified in our results. Policies found in counties with low air pollution levels like Humboldt can serve as models for higher air polluted counties.

Rescue the Data! - An Evaluation of San Diego Lifeguard Agencies' Data Collection Systems

Zall Badii, Katie Ramos, Valerie Zhang

Background: Data has recently become a driving force in decision-making among first responders, underlining the importance of collecting quality data. The Scripps Lifeguard Advisory Council (SLAC) members have expressed interest in gathering more robust and accurate data to drive decision-making and improve efficiency. In collaboration with its members, we conducted an evaluation to better understand the obstacles to data collection and inter-agency variations in the data collection process.

Methods: A short survey was sent to supervisors of 11 San Diego area lifeguard agencies. Questions were administered through Qualtrics and data were analyzed using statistical software SPSS. Semi-structured interviews were also conducted with 18 lifeguards across six agencies and were analyzed using structural coding procedures based on established frameworks from both the CDC and the VA.

Results: Of the 19 participating supervisors, 50% were not satisfied with current data collection procedures, and only 53% were confident in their lifeguards to collect accurate data. One third (33%) reported they do not have an official definition for the term “water rescue”. Supervisors and lifeguards alike reported that the most significant obstacles to quality data collection were: inconsistencies in key definitions, a lack of accountability, poor communication, and a lack of perceived usefulness for the data. Agencies using electronic systems were enthusiastic about the broader implementation of electronic reporting and its potential for improving data quality.

Conclusions: To improve the quality and usefulness of the data collection system lifeguarding agencies should focus on standardizing key terms and ideas, increasing accountability for data accuracy and completeness, improving the quality of communications, and taking steps towards adopting electronic reporting.

Stress and Eating Disorders in College Students

Grace Chen, Suha Godil, Wenshuai Mu

Objective: To examine the relationship between stress and eating disorders in college students.

Methods: A cross-sectional online survey was created in Google forms and completed by college students at UCSD. The survey was emailed to public health students and posted to UCSD-affiliated Facebook groups. It received 86 responses and contained 13 questions to gather information on demographics, stress and the prevalence of eating disorders.

Results: Eighty-four percent of students reported feeling stressed often. Majority of students also reported issues coping, feeling like they could not overcome challenges, or feeling social media pressure on body image. Seventy-two percent of students believed eating disorders were common or somewhat common at UCSD, while binge eating was perceived to be the most common.

Conclusions: Stress and eating disorders are correlated (p=.013). This supports existing literature and confirms that stress and eating disorders are indeed relevant issues college students face.

Policy Implications: We hope to inspire some administrative changes at UCSD where the curriculum should incorporate stress management techniques in the classroom setting or programs on eating disorder awareness.
**Health Literacy and Treatment Utilization Among San Diego College Students**

**Megan Nguyen, Miranda Pan, Keely Paris**

**Objective:** To determine how health literacy affects treatment utilization behaviors and perceptions among San Diego college students.

**Methods:** We conducted a cross-sectional study by administering online surveys to students currently enrolled in San Diego colleges, which assessed how health literacy influences individual treatment utilization. Data collection occurred for 3 weeks and 72 subjects participated.

**Results:** 64.2% of participants rated their knowledge of health information as above average while 7.5% rated their knowledge as below average. 70.1% of participants felt comfortable seeking out treatment for a health concern. Knowledge of health information and comfort seeking treatment were weakly correlated, but there was a significant moderate correlation between knowledge of health information and ability to change health behaviors.

**Conclusions:** Most respondents had above-average health literacy and most felt comfortable seeking out treatment for a health concern. There was no evidence that students with lower health literacy were less comfortable seeking treatment, but there was a significant correlation between health literacy and changing health-related behaviors.

**Policy Implications:** We recommend creating campus programs to educate and empower students on treatment utilization.

**Meditation Practice and Quality of Life**

**Alexis Her, Stephanie Tran**

**Objective:** To examine the relationship between meditation practice and wellbeing among currently enrolled college students at UCSD.

**Methods:** We conducted a cross sectional survey study over the course of three weeks between April 2020 and May 2020. The survey was emailed to Public Health students through Dina Rogers and distributed specifically through UCSD-affiliated groups on Facebook.

**Results:** Among the participants in the survey (n=81), 40% of respondents reported participating in general meditation practices. 63% of our participants agreed engaging in meditation practices can improve an individual’s quality of life. However, our study found no significance with meditation practices and increased quality of life (p=.124).

**Conclusions:** It is inconclusive whether participating in meditation practices can improve overall quality of life in currently enrolled UCSD college students. However, the majority of respondents’ perceived attitudes support that meditation can potentially enhance an individual’s quality of life. The positive attitudes regarding meditation practices can be beneficial for health policies.

**Policy Implications:** Increasing the availability and promotion of meditation programs would be beneficial in improving UCSD students’ quality of life.

**Mass Media Awareness and Vaping Among College Students**

**Arturo Quinonez, Maria Robles**

**Objective:** To determine the association between the awareness of mass media campaigns on vaping-related illnesses and the use of vaping products among college students.

**Methods:** We conducted a descriptive study by sending an anonymous survey to college students ages 17 or greater. The survey consisted of 12 questions measuring exposure to three mass media campaigns on vape-related illnesses and their perception of vape-use trends. Data was collected mid-April to mid-May in 2020. Data from 69 students was used to examine the relationship between the outcome and exposure.

**Results:** About 38% of students had exposure to the mass media campaigns. The majority (>66%) of students exposed to the mass media campaigns perceived an increase in vape use. 75% of students believed that media depicting real cases are most effective at increasing awareness.

**Conclusions:** There is not a significant relationship between exposure to mass media campaigns and perceived vape use. There is not enough evidence showing that mass media campaigns are effecting vaping trends.

**Policy Implications:** Organizations should consider alternatives to mass media campaigns to effectively decrease vape use among college students.

**Promotion of Online Social Distancing Activities for UC San Diego Students**

**Ysabelle Anzures, Daniel Davila, Kyle Lee**

**Background:** USC reported a recent rise in online alcohol sales, suggesting that more people are participating in alcohol consumption as a result of the shelter-in-place mandate. This could be due to coping with stress and peer pressure to drink with friends or co-workers, which can lead to binge drinking and a potentially higher risk of contracting COVID-19.

**Purpose:** This project aims to provide resources to UCSD students who may be struggling to cope or find activities that do not involve consuming alcohol.

**Methods:** Free to low-cost resources, accessible to students, was found through Google searches and social media. A website builder was used to help organize these resources into categories. We will send a beta test of the website for people to test and give feedback.

**Results:** Once the website is up, the number of people visiting the site will be recorded.

**Conclusion:** Through this website, the goal of the project is to help students during the pandemic find easy, fun, and non-alcoholic activities to participate with themselves and friends, as well as resources to help them sustain their wellbeing at home.
Exercise is Medicine at UC San Diego

Liiez Agatep, Andrea Hwang, Ruth Roh

Abstract: The prevalence of poor mental health, such as depression and anxiety, has been on the rise among college students. Tackling this issue involves various factors, but the focus of our project will approach the mental health of college students through the implementation of the Exercise is Medicine-On Campus (EIM-OC) initiative to UC San Diego. The purpose of the EIM program is to integrate or prescribe exercise for patients to provide them with more holistic care. The program provides physical activity resources and evaluation to help patients reach their goals. Exercise is Medicine has already been implemented at UC San Diego’s primary care clinics and our initiative seeks to expand the program to Student Health Services (SHS) and Counseling and Psychology Services (CAPS). Our proposal will include suggestions on how to implement the expansion of EIM to the UCSD campus. Some areas of approach may include utilizing the ongoing RIMAC voucher system, organizing mental wellness events through campus organizations, and outreaching through various social media platforms. More specifically, our plan is to analyze the student health RIMAC voucher system data from the 2014-2020 academic year provided by CAPS and SHS, to identify program gaps and how the EIM program could help fill those gaps. Our overarching goal is to expand the EIM program and promote the importance of exercise to improve the mental health and wellbeing of UCSD students.

Analyzing Sleep Patterns of College Students and the Utilization of Sleeping Pods at University of California, San Diego (UCSD)

Diana Dao, Abigail Medina, Chen Tzu-Hsuan (Melody)

Objective: To differentiate sleep perceptions and utilization of sleeping pods among the University of California, San Diego (UCSD) students.

Methods: A descriptive cross-sectional study administered throughout May 2020. 27 students at UCSD completed an anonymous survey that examined their sleep patterns.

Results: Each respondent, on average, slept 6.67 hours a day, which is less than the recommended 7 to 9 hours per night. 40.7% considered “Maybe”, 29.6% answered “Yes” and 29.6% reported “No” to utilizing the sleep pods in the future. The chi-square test indicated a p-value of 0.812 (p > 0.05), therefore there is no significant difference between being sleep deprived and nap pod utilization in the future.

Conclusions: Most respondents agreed to being sleep deprived due to academics, thereby supporting the beneficial use of sleeping pods. Further research will need to be conducted at the institutional level in order to determine the positive effects of sleeping pods.

Policy Implications: Interventions at the collegiate levels are recommended to encourage students to get sufficient rest. This data can guide public health efforts to publicize the student’s prioritization of academics over wellbeing.

Family History plays a Predictive Role in Association with BMI Weight Category and Diabetes Knowledge

Alyssa Marquez, Kalan Tu, Deepti Yechuri

Objectives: To examine whether prior family history and knowledge of diabetes have an effect on the BMI category of young adults at the University of West Virginia.

Methods: In May 2020, a secondary analysis was performed on a cross-sectional study that was done by the UWV in 2018. The survey provided to the young adult population on campus collected knowledge in relation to the factors that affect diabetes, BMI, and prior family history.

Results: Using a chi-squared test to find the association between prior family history and BMI, a p-value of <0.00 was obtained indicating participants with prior family history had a higher BMI score than participants without it. Meanwhile, a p-value of 0.571 indicated that having prior family history of diabetes had no effect on the participants’ knowledge of diabetes.

Conclusions: We concluded that individuals with prior history of diabetes are at higher risk of developing diabetes, and therefore need to take additional precautions. It is important for educational facilities to increase their efforts in educating individuals about diabetes and their risk factors to decrease their risk.

The Association Between Particulate Matter (PM.25) and Asthma Percentiles in All 58 California Counties

Jose Gonzalez, Benjamin Magpantay, Natalie Moy, Giovanna Olivares

Objective: To compare the strength of the association between particulate matter (PM 2.5) and asthma levels in California via secondary data analysis.

Methods: Using CalEnviroscreen 3.0 of the Office of Environmental Health Hazard Assessment from 2017-2018, we examined the association of asthma prevalence and PM 2.5 through a cross-sectional study by calculating the mean PM 2.5 level and mean asthma percentile among 8,036 California zip codes using linear regression.

Results: The mean PM 2.5 level in California was 10.38. The mean asthma percentile was 49.93. With every unit increase in PM 2.5, we saw a 1.668 unit increase in asthma percentile. At baseline PM 2.5, asthma percentile was 32.66. Our R was 2.24% and our p-value was smaller than the conventional 0.05, so the coefficient was statistically significant. The fitted asthma percentile at the average PM 2.5 level was 49.97. We are 95% confident that the mean asthma percentile is between 49.34 and 50.59.

Conclusions: Using zip codes, we discovered which cities had high PM 2.5 levels and high asthma levels. Zip codes with high PM 2.5 levels (greater than the mean PM 2.5 level) were associated with high asthma percentiles (greater than the mean asthma percentile).

Policy Implications: Implement a carbon tax on cities based on zip code so that they do not go over a specified amount of carbon emissions yearly. We hope that this policy reduces air pollution and asthma percentile throughout California.
**Student Health Advocate (SHA) Training Program Evaluation**

**Meera Swaminath, Rabia Syed**

**Background:** The Student Health Advocate (SHA) program is a volunteer peer health education program at the University of California, San Diego (UCSD) that trains essential members of UCSD’s Health Promotion Services (HPS) department to disseminate information about healthy behaviors to students. The purpose of this evaluation was to assess SHAs’ perceptions of their preparedness as peer educators and identify ways to improve training and communication with leadership.

**Methods:** Using a mixed-methods approach, (January to March 2020), we surveyed 49 (69%) of the 71 2019-2020 SHAs at their weekly meetings and subsequently conducted interviews with four SHAs to contextualize survey findings.

**Results:** About 20% of SHAs reported insufficient training for addressing the health needs of LGBTQIA+ identifying students, which was also expressed during interviews. New SHAs were more comfortable than returning SHAs when discussing sexual health (91% vs. 71%) and addressing the needs of ethnically/culturally diverse students (94% vs. 88%). During interviews, new SHAs wanted more practice with in-person activities during Spring Training, and returning members wanted to be included in Fall Refresher. Only 50% of SHAs used Slack, an online communication platform, to communicate with leadership, and wanted training to use it effectively. Lastly, SHAs felt that the official SHA Instagram could be better utilized to engage students.

**Conclusions:** Fall Refresher should include all SHAs and Spring Training should provide opportunities for new SHAs to practice activities, which prepare SHAs to address the health needs of minorities. SHAs should be trained to use Slack to communicate with leadership, and social media should be oriented towards outreach and student engagement. Limitations of the study include small sample size and low response rate.

**Physical Activity Barriers Before and During the COVID-19 Pandemic**

**Bai Xi Jasmine Chan, Maricris Hernandez, Sarah Kim**

**Objective:** To examine the barriers to physical activity before and during COVID-19 stay-at-home orders.

**Methods:** A cross-sectional Google Forms survey was administered to student participants (n=61) via UCSD student social media listings and the department’s email announcements. Quantitative data was collected to examine the perceived barriers for the exposure, and the frequency and intensity of physical activity as the outcome.

**Results:** Before COVID-19, lack of willpower (79%), time (68%) and skill (64%) were the most common reported barriers to physical activity. After COVID-19, accessibility of facilities/outdoor spaces (84%) and lack of willpower (78%) were the most reported barriers to physical activity. After performing a bivariate analysis, the association between accessibility and overall change in physical activity is statistically significant as the p-value (0.001) is smaller than 0.05.

**Conclusions:** During COVID-19 stay-at-home orders, participants not only experienced more barriers to physical activity, but the barriers they acknowledged had greater influence. Our bivariate analysis showed that participants’ health behavior changed as a result of decreased accessibility to physical activity facilities.

**Policy Implications:** Further research and health policies should focus on implementing physical activity initiatives to increase accessibility for students who are currently at home.

**Stress Influenced by Physical Activity**

**Nour Alkabbani, Mahmoud Jaber, Varshaa Jerry**

**Objective:** To determine if meeting physical activity guidelines is associated with lower stress levels.

**Methods:** We conducted a cross-sectional study via Google Form for UCSD students aged 18-27 and 66 participants answered. The exposure is meeting physical activity guidelines and the outcomes are stress levels. Pearson Chi-Square tests were conducted to examine the association between physical activity and stress levels by major.

**Results:** We were able to find that stress levels in public health majors in not meeting versus meeting the guidelines was 0.375. Stress levels in non-public health majors in not meeting versus meeting the guidelines was 0.023. The number of students who met the guidelines in public health major is 6 and 21 for non-public health majors.

**Conclusions:** Our findings showed an association between physical activity and stress levels among non-public health majors, however, there was no association among public health majors.

**Policy Implications:** The creation of a mandatory online physical and mental education course to allow the students the opportunity to be aware of how physical education can reduce stress. Also, increase awareness of the association between physical activity and stress levels.

**Substance Use & Physical Activity Levels Among UCSD Students**

**Kayla Cooke, Garrett Henkel, Melody Sadri-Naini**

**Objective:** To examine the impact of substance use on perceived physical activity levels among UCSD undergraduates.

**Methods:** A cross-sectional online survey was distributed to UCSD undergraduates via email and Facebook that was open from April to May (n=108). Students rated perceived physical activity levels (on a 1-5 scale with 1 being inactive to 5 being most active) of those who used substances on a weekly basis.

**Results:** Students rated the perceived average physical activity level as 2.57 for those who use multiple substances and as 3.33 for those who do not use any substances. Students rated the perceived average physical activity levels for each specific substance: 2.51 for marijuana, 2.64 for tobacco products, and 3.18 for alcohol.

**Conclusion:** Multiple substance use had reduced physical activity levels compared to those who did not use substances. Marijuana is perceived to be the substance which most adversely affected physical activity levels.

**Policy Implications:** UCSD stakeholders must encourage both safe substance use practices and healthy exercise behaviors among its undergraduate population through mechanisms such as education programs and targeted interventions.
Substance Use on Campus: How Do You Think It Affects Students’ Mental Health?

Favianna Gress, Marlene Tang, Amy Truong

Objective: To assess UCSD students’ perceptions regarding attitudes and behaviors around substance use and its effects on mental health.

Methods: A cross-sectional study was disseminated to UCSD students for two weeks between April and May 2020. 129 study participants were recruited via social media platforms and emails that were distributed to public health students.

Results: The majority of study participants rated alcohol (74%), cocaine (89%), and ecstasy (81%) to have negative effects on overall mental health, whereas only 36% rated marijuana to have negative effects. 77% of participants agreed that alcohol contributed to an increase in feeling down or sad. 79% agreed that cocaine contributed to an increase in anxiety and 74% agreed that cocaine contributed to an increase in stress levels.

Conclusions: While alcohol was perceived to be the main contributor to students feeling down or sad, cocaine was perceived to be the main substance that contributes to negative effects on students' mental health.

Policy Implications: Expansion of mental health resources on college campuses to promote healthy lifestyle habits and be more inclusive of dual treatment for substance use.

Implementing the "Wave of the Future" Financial Education Program at UC San Diego

Bryant Cao, Karen Nguyen, Timothy Nguyen

Abstract: Financial literacy education for college students can build a strong foundation for informed financial decisions into the future. While financial literacy resources are available on campus, students are unaware of the accessibility to these resources. Our implementation and evaluation project explores if adapting financial literacy workshops for both a synchronous webinar format and an asynchronous video format would increase financial literacy awareness. In collaboration with the San Diego Financial Literacy Center (SDFLC) and UC San Diego (UCSD), we piloted the SDFLC’s “Wave of the Future” financial education program oriented for UCSD students on an online platform. These financial literacy webinars, covering budgeting and credit, were promoted to UCSD students through college newsletters and social media platforms. From our survey data, 100% of participants reported an increase in applicable financial literacy knowledge, after attending the webinars. From our evaluation, expanding financial literacy resources into online platforms has the potential to increase financial literacy among college students.