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## **An Evaluation of a Structural Competency Training for School Nurses**

Rachel J. Torres

*California State University, Northern California Consortium Doctor of Nursing Practice*

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# **An Evaluation of a Structural Competency Training for School Nurses**

Rachel J. Torres

A doctoral project completed in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice in the Valley Foundation School of Nursing, San José State University

March 2023

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## **Dedication**

To my ancestors who persevered and survived so that I may be here today and to my children, Annie, Abby, and Bayani, who will continue our legacy of building community while breaking down barriers and systems of oppression.

An Evaluation of a Structural Competency Training for School Nurses

Rachel J. Torres, MS, RN, PHNA-BC

Doctor of Nursing Practice Program

The Valley Foundation School of Nursing

San José State University

March 31, 2023

**Abstract**

The aim of this quality improvement project was to use structural competency as a tool to highlight the broad social, political, and economic structures that influence health and subsequent inequities and disparities. A one group, pre-and post-design quality improvement project was used to determine whether the Structural Competency Working Group curriculum influenced school nurses' thought processes regarding the factors that influence health outcomes. The curriculum was adapted to a 1.5-hour training and delivered to a group of school nurses from a highly populated and socially, economically, and culturally diverse urban county in northern California. The results showed that after the training the school nurses had an increased awareness of the broader structures that impact student health. Teaching structural competency to school nurses offers the skills and tools they require to ensure students are able to reach their full academic potential.

*Keywords:* structural competency, cultural competency, health equity, school nursing, social justice, social determinants of health

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### **An Evaluation of a Structural Competency Training for School Nurses**

As nurses in the United States it is inevitable that we will encounter patients from cultural, social, economic backgrounds different from our own. School nurses work in a unique setting, as they are navigating two different work cultures: healthcare and education (Carr & Knutson, 2015). School nurses use their skills to impact health and academic readiness for children in public and private school settings (Davis, et al., 2021). The role of school nursing has evolved from only working to reduce student absences related to communicable disease to now providing direct nursing care, case management, health screenings, health education and promotion to students, families, and staff, and serving as a liaison among the school, the community, and other healthcare professionals (Whitman, et al., 2010). To engage with a student regarding health and academic performance, the school nurse must also initiate and create partnerships with the student's family and other community support systems (Carr & Knutson, 2015). School nurses are navigating the landscape of providing services to children and their families from cultural backgrounds different from their own (Hurrell, et al., 2021; Carr & Knutson, 2015).

In a 2017 school nurse workforce study, 86.9% of the respondents identified as non-Hispanic White; 4.8% Black/African American; 1.4% Asian; 4% Hispanic/Latina; 2.2% multiple; <1 American Indian/Alaskan Native and Hawaiian (Willgerodt, et al., 2018). Recent United States Census Bureau (2019) data shows that only 60.1% of the population identify as non-Hispanic white, 13.6% were born in a country other than the United States, and 21.6% spoke a language other than English in their household. It is also estimated that approximately 26% of the U.S. population fall under the status of "immigrant" and/or "refugee" and school nurses are most likely the initial healthcare providers to interact with the families and the



children of newly arrived immigrants and refugees (Brady, et al., 2021). Specifically in California, United States Census Bureau (2021) data shows that 26.6% of residents are foreign born, 12.3% live in poverty, and 34.7% have a bachelor's degree or higher. As the diversity of the U.S. population continues to rise, school nurses must also continue to adapt their practice in order to appropriately meet the needs of the patients they serve (Douglas, et al., 2011).

### **Cultural Competency**

Providing respectful and equitable care to patients regardless of their identities is the basic expectation from each healthcare provider, including the school nurse (Douglas, et al., 2011). One method to ensure such quality care is being delivered is through cultural competency training (Carr & Knutson, 2015). The *Standards of Practice for Culturally Competent Nursing Care: 2011 Update* offers 12 standards to guide the practice, administration, education, and research for nurses in the hopes of enhancing culturally competent nursing practice and care (Douglas, et al., 2011). *Standard 8: Education and Training in Culturally Competent Care*, states that “Nurses shall be educationally prepared to promote and provide culturally congruent health care. Knowledge and skills necessary for assuring that nursing care is culturally congruent shall be included in global health care agendas that mandate formal education and clinical training, as well as required ongoing continuing education for all practicing nurses” (Douglas, et al., 2011, p. 325). Yet, 95% of school nurses reported having little to no cultural competency training within the last five years (Mataza, et al., 2015). In this same survey, while most of the school nurse respondents reported some familiarity with the diversity and health disparities in their school populations, over half also reported seldom to never assessing or addressing specific cultural beliefs or practices within the populations they served (Mataza, et al., 2015).

In response to the 2012 school nurse cultural needs assessment survey, the National Association of School Nurses (NASN) developed a website for school nurses with resources and information on various cultures, cultural and language resources specific for school nurses, as well as sample assessment tools for nurses to assess the unique needs of families. The NASN hosted breakout sessions on cultural competency at their annual conferences and developed a webinar using the National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (National CLAS Standards) as related specifically to school nursing (Mataza, et al., 2015; Hurrell, et al., 2021). Hurrell, et al. (2021) developed and implemented a cultural competency training using the National CLAS Standards framework. While this program was well received by the nurses in attendance and by the end of the year-long program most nurses self-reported having increased knowledge in cultural competence, there was no significant improvement in the areas regarding cultural sensitivity and awareness and culturally competent behaviors (Hurrell, et al., 2021).

### ***Criticism of Cultural Competency***

Critics of the delivery of current cultural competency training and education argue that the lack of increased self-awareness and behavior change reinforces racism (Ray & Davis, 2021). It is argued that without addressing white social dominance, power, and privilege, cultural competency allows health and medical providers to center whiteness and pathologize all other patients and providers of color (Ray & Davis, 2021; Gordon, et al., 2016). A large criticism of cultural competency is that it assumes the skills and attitudes needed to work effectively with other cultures can be learned. Critics also indicate that the main objective of cultural competence is gaining knowledge of other cultures, which creates potential for stereotyping and passing judgment without assessing intercultural variability. There is also a

lack of social justice and the intersections of race, ethnicity, gender, sexual orientation, age, class, education, religion, physical ability, and social inequities as a result of unequal distribution of power and white privilege (Camphina-Bacote, 2018).

### **Cultural Humility**

In an attempt to mitigate the shortcomings of cultural competency, the concept of cultural humility was put forth as a more effective framework for engaging with patients who come from cultures other than that of the clinician (Tervalon & Murray-Garcia, 1998; Foronda, et al., 2016). Whereas cultural competence implies a mastery of a body of knowledge, cultural humility is rooted in self-awareness, reflective process, power imbalances, understanding of implicit biases that one brings to the patient encounter, being humble in every patient encounter, and lifelong learning (Foronda, et al., 2016).

### ***Limitations of Cultural Humility***

While cultural humility seeks to fill in the holes of cultural competency, as it places less emphasis on knowledge and more on self-evaluation and critique, many researchers suggest that it does not effectively replace cultural competence (Danso, 2018; Camphina-Bacote, 2019). Cultural humility requires an individual to change their perspective and embrace a new way of life. This is a process that cannot be taught, and unintentional ignorance can never be an excuse for acting on implicit or explicit biases (Danso, 2018; Camphina-Bacote, 2019; Formosa, et al., 2016). Individuals must develop an attitude of not knowing and recognize that there is space for learning from all encounters regardless of societal rank or status (Danso, 2018; Foronda, et al., 2016). Foronda, et al. (2016) indicate that cultural humility is difficult to accomplish, or progress is halted when both parties involved in the interactions are not open to practicing humility, often perpetuating resentment, pain, anger,

and hostility.

### **Structural Racism in Healthcare and in Schools**

Racism is embedded both in the U.S. education and healthcare system, resulting in unequal and inequitable outcomes for children of color, particularly, those of African descent or Black and increasingly among those of Hispanic/Latino/a/x descent (Crutchfield, et al., 2020; Fanta, et al., 2021; Aaron & Stanford, 2022). For the past 30 years, it has been consistently reported that by 8th grade, Black and Latinx students are three years behind their White peers in academic achievement (Crutchfield, et al., 2020). Black students are 3 times more likely to be referred to special education and they are also 3.8 times more likely to be suspended or expelled compared to White students (Crutchfield, et al., 2020; Weir, 2016).

Infant morbidity and mortality rates among Black infants remain two times the rate of White infants despite scientific and medical advances in maternal-child health care (Fanta, et al., 2021). Black children are twice as likely to be diagnosed with asthma compared to White children and are also disproportionately mismanaged medically, leading to higher rates of visits to the emergency room and death (Fanta, et al., 2021; Evans-Agnew, 2016). Fanta, et al. (2021) report that the incidence and prevalence of Type I diabetes is greater among White children, yet Black children with Type I diabetes have twice the mortality rates, which researchers report is due to provider biases, social determinants of health, institutional racism, and structural barriers.

School nurses often work directly with children with chronic diseases such as asthma, type 1 diabetes, seizure disorders, and other neurodevelopmental variants. Recognizing that racism, not race, is the risk factor for poor outcomes in both the education and healthcare settings provides the necessary foundation for breaking down the structures that perpetuate systemic

racism, which in turn will improve the health and wellbeing of students, families, and entire communities (Davis & O'Brien, 2020; Crutchfield, et al., 2020; Fanta, et al., 2021; Aaron & Stanford, 2022).

### **Critical Review of the Evidence**

Literature reviews of cultural competency and humility in healthcare, medicine, and nursing indicate that these concepts do not result in practice change and do not improve patient health outcomes for those in vulnerable, marginalized, and neglected communities. Wanting to address this problem, this author searched for scholarly articles using terms such as “social justice in healthcare”, “structural racism in medicine,” “social justice in nursing education,” “racism in schools.” This search led the author to the term “structural competency.” The theory of structural competency is defined as “the capacity for health professionals to recognize and respond to health and illness as the downstream effects of broad social, political, and economic structures” (Neff, et al., 2020, p. 2). This author then searched for scholarly articles using the terms “structural competency,” “structural competence,” “structural competency in healthcare/medicine/nursing,” “structural racism in healthcare/medicine/nursing,” “structural racism in schools.” Only articles that addressed structural competency in the healthcare setting or in the school setting were selected for further in-depth review. The following section is a critical appraisal of the articles that implemented training on structural competency for healthcare professionals.

Recognizing that cultural competency training does not improve patient outcomes, the Bastyr University Department of Midwifery redeveloped the curriculum to incorporate antiracism coursework in the program. In 2010, Bastyr University Department of Midwifery developed a 2-credit course on specific cultural beliefs, concepts of identity, and social

determinants of health. The outcome of this course did not change the self-awareness or skills of the predominantly white students; in fact, the students of color reported feeling more isolated at the end of the course (Gordon, et al., 2016). The authors of the study redeveloped the course to include a stand-alone 1.5 credit course over 13 weeks on racism, power, and privilege. The length of this course allowed the white students the time to deeply examine racism in their own lives and were also given space to process the range of emotions which followed suit. The students of color indicated that this course seemed helpful in being able to connect with their white peers (Gordon, et al., 2016). Placing the course on racism, power, and privilege ahead of the cultural competency course allowed the graduate students the opportunity to scrutinize their own lens of the world and identify their implicit biases, thus shifting the focus from increasing knowledge of other cultures to deepening awareness of their own. This shift improved awareness and behaviors of the student midwives (Gordon, et al., 2016).

Researchers have found that medical training does not prepare the students to identify and address health disparities, which often lead to physicians experiencing emotional distress, a sense of burn out, and feeling helpless in their role as a medical provider (Metzl, et al., 2018; Neff, et al., 2016; Neff, et al., 2020). Recognizing that social, political, and economic factors are at the root of health disparities, Neff, et al. (2020) developed a curriculum on structural competency for medical students and physicians. The curriculum was developed by the Structural Competency Working Group (SCWG), which is a multidisciplinary team that included clinicians, scholars, students, and administrators from the fields of medicine, nursing, anthropology, sociology, social work, and public health.

The SCWG curriculum was piloted in 2015 with 12 family medicine residents in a California based program serving patients from low-socioeconomic backgrounds (Neff, et al,

2016). The researchers administered a post-session survey with open-ended questions immediately after the training and one month after the training, as well as conducted a focus group inquiring on the training, effectiveness, and impact on their medical practice. There was a 100% response rate for the immediate and one month post training surveys; the focus group was attended by those who did not have conflicting obligations. Qualitative analysis of the data identified two themes: 1. The residents reported the training had a positive impact on their practice and patient relationships, and 2. The residents felt overwhelmed with their knowledge of structural influences and expressed a need for further training on strategies to address these influences within and beyond the clinical setting. The limitations of this study were that its generalizability cannot be assumed as it was conducted with a single residency program, that assessment of change in attitudes, knowledge, and skills was limited to self-reports, and longevity of the intervention was limited to one month after implementation.

In their article published in 2020, Neff, et al. report on qualitative data gathered from 32 SCWG trainings held between 2015 and 2017 in the San Francisco Bay Area (Neff, et al., 2020). The study included data from 275 participants consisting of physicians and medical students. An open-ended written-response survey was implemented right after the training resulting in 100% response rate. Qualitative analysis of the data revealed three themes: 1. The participants found value in the training's focus on actual clinical cases with applicable strategies to address structural violence, 2. Participants reported a new awareness of which helped them to move away from patient blaming, and 3. The training reminded participants of the reason they chose the healthcare profession. Limitations of this study are akin to the pilot study done in 2015 (Neff, et al.); the sample of only physicians and medical students, the qualitative evaluation, and the

one-time immediate post intervention data collection limits the longevity and generalizability of this research study.

Woolsey and Narruhun (2020) conducted a mixed-methods study which implemented the SCWG curriculum with 60 second year doctor of nursing practice students in Seattle, Washington. The researchers adapted the SCWG curriculum to reflect clinical case studies relevant to nursing practice and developed a survey instrument (test) with both quantitative and qualitative questions. The survey was distributed three times; immediately before the training, immediately after the training, and three months after the training. There was a 100% completion rate for the pre-test and the immediate post-test, however only 48% of the participants completed the post-test distributed three months after the training.

The quantitative questions from Woolsey and Narruhun's (2020) research were scored as the percentage of correct responses. Paired sample *t* tests were then used to compare the scores between the pretest with the immediate post-test and the scores between the immediate post-test with the three-month follow-up test. Statistical significance of the data was set at  $p < 0.05$ . The results of the pre-to-posttest comparison showed that there was significant increase in the participants' ability to apply structural competency concepts and in their sense of ability to make change. There were very slight differences indicating that the training increased their knowledge of structural terms and their personal sense of empowerment, however they were not statistically significant. The data from the post-to-three-month follow-up showed a significant decrease in the participants' personal sense of their ability to make change and their personal sense of empowerment. There were slight increases in their ability to apply the concepts and knowledge of structural terms, however they were not statistically significant.



The qualitative results from Woolsey and Narruhun's (2020) research indicated that the participants felt overwhelmed with this new knowledge of structural competency and that they lacked the skill to address structural issues. The limitations of this study are the measurement tool was not pre-tested which resulted in omitting the data from 9 of the 22 quantitative questions, longevity of the intervention does not exceed three months post implementation, and it is not generalizable beyond doctor of nursing practice students (Woolsey and Narruhun, 2020).

Orr and Unger (2020) adapted and implemented the SCWG training for a nursing program in Jerusalem, Israel. The training was incorporated in the bachelors of science in nursing, RN-BSN, masters of science in nursing, and nurse practitioner programs; their article reports on 200 trained students. The authors reported that the training increased the students' understanding of structural competency as well as skills to intervene when structural violence is observed. This article served as a report on the use of the "TOLERance Model" for implementing structural competency training within undergraduate and graduate nursing education.

Medical and nursing professionals have recognized their role in advocating for social justice as it directly impacts the health of the people they serve. Cultural competency and cultural humility training have not proven to impact patient health outcomes, and it is argued that the concepts perpetuate harm and inequities (Ray & Davis, 2021; Gordon, et al., 2016). Structural competency trainings that have been offered for physicians, family medicine residents, medical students, baccalaureate nursing students, and DNP students have shown that participants gained an understanding of the political, social, and economic structures that determine the social determinants of health, however this training has not been disseminated in the school nurse setting (Woolsey & Narruhn, 2020; Neff, et al., 2020; Orr & Unger, 2021).

### **Theoretical Framework**

School nurses are constantly adapting to the changes in their schools and districts as well as with the social and political environment at the local, state, and national levels. Therefore, school nurses have established an identity of innovation and growth to drive and implement change (Costante, 2013). Changes in attitudes and behaviors among the individuals depends on which stage of change they are in. The transtheoretical model of behavioral change includes five stages: *precontemplation* (no intention to change), *contemplation* (considers making a change), *preparation* (planning to make a change), *action* (making modifications and adopting new behaviors), and *maintenance* (ongoing maintenance of new behavior change) (Butts & Rich, 2018).

Further, the strategy used to implement changes can have an impact on the reception of the changes (Mitchell, 2013; Salam & Alghamdi, 2016). The empirical-rational and the normative re-educative strategies are the most appropriate change management strategies for implementation of a structural competency training for school nurses because success relies on the change of attitudes and behaviors of the nurses. The empirical-rational strategy assumes that nurses are rational, and they will adopt change if there is evidence to support the change and it is in the best interest of the nurse (Mitchell, 2013; Salam & Alghamdi, 2016). Proper communication and delivery of the information and the personal benefits of making the change are key to the success of the empirical-rational strategy (Salam & Alghamdi, 2016).

The normative re-educative strategy assumes that nurses are committed to act according to socio-cultural norms (Salam & Alghamdi, 2016). The normative re-educative strategy is successful when nurses are given the education on redefining the current norms and will subsequently change their behavior patterns (Mitchell, 2013; Salam & Alghamdi, 2016).

Blending both empirical-rational and normative re-educative strategies may move the nurses who are in either precontemplation or contemplation phases into the preparation and action phases of change.

### **Rationale**

This Doctor of Nursing Practice (DNP) project recognizes the unique role of the school nurse and previously identified evidence indicates that currently available training on cultural competency is not resulting in changing or improving their skills and behaviors as it relates to providing care to diverse students and their families. The aim was that school nurses will understand and acknowledge their power and social placement so as to not perpetuate social injustices when interacting with culturally diverse patients. The purpose for this DNP project was to determine whether training on structural competency for school nurses influenced their knowledge, critical thinking skills, and attitudes on the factors that influence student health and inequitable outcomes.

### **Methods**

#### **Design**

The design of this project was a one-group, pre-post design (see Appendix A). There were open ended and closed ended questions given pre and post training to determine if the training module influenced the participants' knowledge and perspective of the structural factors that influences the social determinants of health.

#### **Setting**

The training took place in an online virtual meeting space for a school nurse networking group from a large urban county in the San Francisco Bay Area. This school nurse networking group is an informal group made up of registered nurses employed at schools providing public or

private education for students in kindergarten through twelfth grade (K12 school) in a large urban county in the San Francisco Bay Area. The nurses work in all areas of school nursing, such as staffing the wellness/health centers, supervision of unlicensed assistant personnel, and administrators or coordinators of health and nursing services. The nurses also work in various levels of the education structure, such as at individual school sites, at the school district level, or at the county office of education.

### **Sample**

Participants were a convenience sample of those in attendance for the school nurse networking group meeting. The school nurse networking group is composed of registered nurses with Clear or Preliminary School Nurse Services Credential through the California Commission on Teaching and are working or have worked and are retired in the K12 school setting. Notice and consent to participate in the project was provided during the pre-test; the language can be read in Appendix A. This project did not meet the federal definition of research or involve human subjects and did not require Institutional Review Board (IRB) approval. The project received program approval from The Valley Foundation School of Nursing at San José State University (Appendix B).

### **Ethical Considerations**

There were limited risks associated with this intervention. Potential risks were emotional distress due to discussion of race, racism, privilege, and power. Participants were informed they were able to take a break or cease participation at any time. Local mental health and counseling resources were provided to participants (Appendix C).

Potential benefits of this project were that school nurses would feel they have the knowledge, skills, and tools necessary to address the systemic factors that contribute to disease

and disability among the children/students which may lead to decreased feelings of emotional and moral distress as well as burnout and compassion fatigue. With these increased feelings of empowerment, school nurses may become active in advocating for structural changes in their school district, community, state, nationally, and globally. The participants in attendance were eligible to earn 1.5 continuing education units as deemed appropriate by the American Nurses Credentialing Center (ANCC). There was no fee to attend this training session. There was no payment to participants.

Confidentiality was maintained throughout the project. Data gathered for this project was stored in a secure password protected file and did not have any personal identifiers. All participants completing the tests were anonymous. A unique identifier was randomly assigned by the survey software to each participant. The unique identifier was used to pair the pre and posttests. It was established that the space is a safe environment where participants were free to discuss topics without fear of retaliation or hostility. Participants were told and reminded throughout the program that all topics discussed were confidential.

### **Data**

The variables and measurement for the project outcomes are listed in Appendix D. The variables were based on the following program outcomes: 1. Change in knowledge of the structural influences on student health and the patient encounter; 2. Change in critical thinking skills to address structural influences on patient health and the patient encounter; 3. Attitude shifts from individual responsibility or “patient blaming” to recognizing the structural influences on patient health. The instrument was a survey with open ended and closed questions. The survey aimed to assess whether the training was consistent with the learning objectives which included if the training content influenced or changed the participants’

perspective on social and structural determinants of health.

The questions in the survey to test for structural competency knowledge and skills were adapted, with permission from the journal publisher, from The Social Foundations of Health (SFH) evaluation instrument (Metzl & Petty, 2019). The questions to test for attitude change were adapted, with permission from the article authors, from the instrument developed by Woolsey and Narruhn (2020). A copy of the copyright permission for both instruments is on Appendix E.

The following demographic data was collected in the pre-test: nursing experience working in the K12 school setting, either part-time or full time; School nurse credential status; Number of years with a clear school nurse credential; Gender Identity; Ethnicity Identity; Race Identity. Data was collected only on the day of training.

### **Procedures**

The project timeline is presented in Appendix F. The county wide school nurse networking group meeting served as the venue for the training. The coordinator for this school nurse networking group sent out emails to their members advertising the training. A copy of the advertising flier is presented on Appendix G.

The planned intervention was the open-source Structural Competency training program developed by the Structural Competency Working Group (Neff, et al., 2020). The Structural Competency Working Group (SCWG) produced and published their curriculum and facilitators guide for public use and open access (Neff, et. al., 2020). The training was delivered in a lecture format with presentation slides, which can be seen in Appendix H. The SCWG curriculum was adapted, with permission, and included a case study that was relevant to school nursing.

The training was 1.5 hours in length through the online virtual meeting platform, Zoom. Prior to the start of the presentation the participants completed a pre-test survey online via Qualtrics® software. The pre-test included demographic questions such as: number of years participant has worked in the school setting, whether the participant has a clear or preliminary school nurse credential, and number of years participant has had a clear credential. Only those who answered “yes” to holding either a clear or preliminary school nurse credential were included for data analysis. The training was lecture based with a visual slide presentation.

The learning objective of the training was: *By the end of the workshop, the participants will be able to differentiate individual, cultural, and structural factors that impact student health outcomes.* Immediately after the presentation, the participants completed a post-test online via the same platform as the pre-test. The post-test had the same questions as the pre-test so that knowledge change, if any, could be assessed. Pre and post tests were matched using a unique five-digit numeric identification number which were randomly assigned to each participant via the Qualtrics® software. Participants were prompted to write down the five-digit numeric identifier during the pre-test and then prompted to enter the same assigned number in the post-test.

### **Analysis**

Data for the analysis of the training outcomes was retrieved from the pre and post tests administered immediately before and after the training. All analyses were developed in consultation with the author’s DNP project chair, mentors, and a statistician. Quantitative data was stored and analyzed using IBM® SPSS® version 27 software. All variables were examined using descriptive statistics. Demographic questions were analyzed for frequency and mean distribution. The open-ended questions were reviewed and analyzed with a project mentor and

qualitative researcher. The summative approach to qualitative content analysis was used to identify key themes and then compared between the pre- and posttest responses (Hsieh & Shannon, 2005).

## Results

### Pretest Survey

A total of 25 school nurses responded to the pretest survey. All responded that they were female, except one who did not provide a gender. Additional demographic characteristics are summarized in Table 1.

**Table 1**

*Demographic characteristics of the sample*

	Frequency	Percent
<b>Role as a nurse</b>		
School nurse staff (working directly with students)	17	68
Resource school nurse/Supervisor	6	24
School nurse administrator	2	8
<b>Number of students served</b>		
500 or less	5	20
501-1000	3	12
1001-5000	11	44
5001-10,000	2	8
10,001 or more	4	16
<b>Years worked as a school RN</b>		
0-5	9	36
6-10	3	12
11-15	9	36
16+	4	16
<b>Credential</b>		
Clear School Nurse Credential	16	64
Preliminary School Nurse Credential	6	24
I don't have either a preliminary or clear credential	2	8
<i>not answered</i>	<i>1</i>	<i>4</i>
<b>Years with Clear credential</b>		
0-5	4	25



	6-10	4	25
	11-15	3	19
	16+	5	31
<b>Race</b>			
	White	13	52
	Filipino/a/x	6	24
	Chinese	2	8
	Black or African American	2	8
<b>Ethnicity</b>			
	Hispanic/Latino/a/x	1	4
	Hispanic/American Indian or Alaska Native	1	4

The nurses were asked to provide their opinions regarding the three most important factors determining a person's health. The open-ended responses were categorized into three general areas: 1) individual-level factors, 2) cultural factors and 3) structural factors, as defined by Metzler and Hansen (2014). The survey then provided the nurses with a map of California showing percentages of childhood obesity. They were provided with a list of 14 factors and asked to choose three factors which explained the high percentages. The nurses were then asked to briefly explain the reason for choosing those three factors. The first six factors were non-structural, and included genetic factors, individual lifestyle choices, cultural background, health traditions and beliefs, health literacy, and physician bias. The remaining factors in the list were structural and included access to health care, health delivery system, health insurance, institutional racism, medicalization, individual or family income, neighborhood factors, and social policies. The nurses were provided with references indicating a higher incidence of asthma in Black children and asked again to choose the three factors most likely to explain these findings using the same list of 14 possible factors and again asked to briefly explain the reason for choosing those three factors. Lastly, the nurses were provided with a scenario regarding a Tdap (Tetanus, Diphtheria, Pertussis) vaccination campaign, which noted that the Latino/a/x population had been underserved. The nurses were asked to choose from four possible

explanations: 1) Cultural beliefs about immunizations, 2) Fear of governmental agencies, 3) Inadequate outreach in the Spanish language, and 4) Socioeconomic policies. The results are summarized in Appendix I.

In the qualitative analysis of the open-ended responses were coded to the following themes: A. Response discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism; B. Response explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities; C. Response explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities; and D. Response addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences. These key themes are consistent with the coding themes developed by Metzl and Petty (2019). Appendix J presents the coding categorization for all open-ended responses.

### **Posttest Survey**

A total of 17 school nurses responded to the posttest survey, which included the same three questions regarding general health, childhood obesity, the prevalence of asthma in Black children and underservice of Latino/a/x in a hypothetical Tdap campaign. The open-ended responses regarding the three most important factors determining a person's health were categorized into three general areas: 1) individual-level factors, 2) cultural factors and 3) structural factors, as defined by Metzl and Hansen. The results are summarized in Appendix I.

A final section of the posttest survey asked the nurses "How valuable/useful was this training to you?" Table 2 summarizes their responses and indicates that over half (52.9%) of the

nurses reported that the training had been very valuable. The nurses were also asked to respond to two open ended questions: “Which elements of today’s training did you find most valuable? Any tools/ concepts/ strategies that you found particularly useful?” and “In what ways (if any) do you expect to use or implement structural competency concepts and frameworks in your career?” All but two nurses explicitly described the usefulness of learning about the structures and broader factors that impact health outcomes.

**Table 2**

*Posttest responses regarding the value/usefulness of the training*

	<i>n</i>	<i>%</i>
not valuable	2	11.8
somewhat valuable	3	17.6
valuable	2	11.8
very valuable	9	52.9
<i>not answered</i>	<i>1</i>	<i>5.9</i>

In response to expected use of the concepts presented, most of the nurses described that there was a change in the way they will approach clinical encounters with their students. One key theme was that the nurses gained an awareness of the health implications of structural factors that are beyond the control of an individual and that as school nurses. For these nurses, implementation manifests as a change in their thought process and recognizing that current practices are not sufficient in impacting the factors impacting the health of the students they serve. Table 3 and 4 lists the nurses’ open-ended responses.

**Table 3**

*Open-ended responses regarding value of the training*

- Going to think more about structural racism in a few new ways and very valuable to prioritizing avoidance of burnout by becoming involved in causes to work towards larger changes in public health to benefit those most vulnerable.

- Underscores the importance of incorporating a wider lens of understanding systemic and structural racism in order to provide compassionate and equitable care to our marginalized populations.
- I found everything in the training very useful and it is a good thing to learn about several structures that can affect a person's health
- The breakdown of the structures were very useful
- I think you did a great job of summarizing the very important part that social, economic and historical factors play in a community's health. I have been trying to use these ideas (sometimes with different vocabulary) for the 45 years I have been a nurse.
- I really liked the part where the factors contributing to the status of the child with T1D were broken down and attributed to larger and more accurate reasons.
- I thought it was all good!
- Culture

**Table 4***Open-ended responses regarding expected use of the training*

- To better understand our students'/patients' needs through understanding more of the influences on their health.
- just makes you think about where a student is coming from
- Realizing that everything can be traced back to government/societal policies and structures rooted in racism and stereotypes.
- when working with different populations it is important to understand and help families
- Work towards building my own self-awareness of implicit biases and taking small every day risks to challenge the status quo.
- Not to assume what someone is going through based on the color of their skin, their cultural beliefs, socioeconomic status. We have to keep our biases in check.
- It will reinforce what I am already doing. I am happy that you are passing these ideas on to your contemporaries!

- This information will be helpful when working with families from diverse backgrounds.
- Always looking for ways to improve health outcomes for clients.

### **Matched Pre- and Posttest Survey**

There were eight nurses whose pre- and posttest surveys could be matched. For the first three questions on the survey, the number of structural factors these nurses chose on the pretest was compared to the number they chose on the posttest using Wilcoxon signed ranks tests. In addition, the nurses' responses to the fourth question were compared by taking a difference score between their average rating of structural factors minus their average rating of non-structural factors. The pretest and posttest difference scores were then compared, again using a Wilcoxon signed ranks test. The results are summarized in Table 5.

On the posttest, an average of 2.13 structural factors were chosen among the three most important factors determining a person's health, which is one more structural factor compared to the pretest. There were no differences between the pre- and posttest in the number of structural factors chosen for Question 2 (explaining the high percentages of childhood obesity) or Question 3 (explaining the higher incidence of asthma in Black children). However, the five nurses who responded to Question 4 (regarding the vaccine campaign) rated structural factors higher on the posttest than they did on the pretest. On the pretest, the average score was negative, indicating that nonstructural factors were rated higher than structural factors. On the posttest, the difference score was positive, indicating that structural factors were rated slightly higher than non-structural factors.

### **Table 5**

*Comparison of the pre- and posttest responses for eight matched cases*

Question	<i>N</i>	Pretest		Posttest	
		<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
1	8	1.13	0.99	2.13	0.84
2	8	1.50	0.93	1.50	1.41
3	8	1.63	1.19	1.50	1.07
4	5	-1.40	0.55	0.60	0.55

Comparisons between the pre- and post-data of the open-ended responses to questions 2 and 3 could not be made because there are only two of the matched cases that have both pre and posttest data. However, it is noted that one nurse discussed cultural and structural factors to explain the geographic disparities in childhood obesity in the pretest but in the posttest this nurse only discussed structural factors. The other nurse only discussed individual-level structural factors in the pretest but in the posttest, they discussed individual-level and broad social or political-level structures to explain the geographic disparities in childhood obesity.

### **Discussion**

The aim of this quality improvement project was to determine whether a 1.5-hour training on structural competency for school nurses influenced their knowledge, critical thinking skills, and attitude on the factors that influence student health disparities and inequities. The quantitative findings of the matched surveys showed that the training slightly influenced the attitudes and did not influence the nurses' knowledge or critical thinking skills regarding the factors that influence student health outcomes.

The qualitative findings, although unable to match the pre- and post-tests, showed that the training did have influence on the nurses' knowledge, critical thinking skills, and attitude on structures that impact health outcomes. One particularly interesting response to the questions on intended implementation of structural competency concepts was, "Work towards building my

own self-awareness of implicit biases and taking small every day risks to challenge the status quo.” This nurse explicitly states that challenging social norms is the pathway to reducing health disparities. This nurse demonstrated a recognition that the current focus on cultural competency and the social determinants of health are inadequate in achieving health equity and has been called to act by “taking small every day risks to challenge the status quo.” Another nurse who demonstrated the intention to advocate for social justice wrote, “...very valuable to prioritizing avoidance of burnout by becoming involved in causes to work towards larger changes in public health to benefit those most vulnerable.” This call to action exemplifies that by the end of the training these nurses were in the preparation (planning to make a change) and *action* (making modifications and adopting new behaviors).

The school nurses responded positively to the rational-empirical and normative re-educative strategies theoretical framework on effecting change. Examples of positive statements are: “I really liked the part where the factors contributing to the status of the child with T1D were broken down and attributed to larger and more accurate reasons” and “To better understand our students’/patients’ needs through understanding more of the influences on their health.” Blending both empirical-rational and normative re-educative strategies may have moved the nurses who were in either precontemplation or contemplation phases into the preparation and action phases of change because they were presented with information about the social and economic policies and redefining the factors that determine health. The project was implemented within the San Francisco Bay Area which is a very diverse community and in the years between 2000 and 2019, the white population went from 50% to 39% (Bay Area Equity Atlas, 2022). Therefore, the socio-cultural climate for school nurses in this region is congruent with raising awareness of implicit biases and ways they impact nursing care and health outcomes.

The overall response to the Structural Competency Working Group (SCWG) curriculum by school nurses is consistent with existing literature in that the school nurses expressed appreciation of the information and that they are reframing from blaming/individual responsibility when thinking about the health status of their students/patients. This quality improvement project implemented a 1.5-hour training which compared to the 3-5 hours recommended by SCWG may be the reason there was not as significant of changes in the pre and posttest surveys. Another possible explanation is that this training was implemented with a group of already practicing school nurses whereas in the literature, the training was delivered to medical students or residents and nursing students either in baccalaureate or doctoral programs. In the literature, the participants were in a space for learning and as a student may have responded to the survey in a way that seemed favorable in the eyes of the training facilitators.

### **Limitations**

This was a quality improvement project conducted with one group of school nurses in a very large urban county and not meant for generalization. Further research is needed to assess for which ways, if any, have the school nurses put structural competency framework into practice and if not, what ways can barriers be overcome. Conducting more robust training on the structural competency framework may move more nurses to the action and maintenance phase of change. Offering the space for in depth analysis into ways to continue incorporating the structural competency framework in day-to-day student and staff encounters may also prevent relapse into the patient blaming mindset. Lastly, structural competency is not a core subject in nursing and school nursing education (American Association of Colleges of Nursing, 2021). Given the current social and political climate, this is an opportune time to invest in the



professional and political development of school nurses.

### **Conclusion**

School nurses deliver comprehensive care beyond the scope of all other school support programs because they encounter and address the physical, mental, emotional, and social issues facing them (Davis, et al., 2021). The aim of this quality improvement project was to provide school nurses with the knowledge, critical thinking skills, and attitude to address the social determinants of health and mitigate change at the structural level. The status quo of addressing the social determinant of health through cultural competency training is not reducing health disparities, in fact, they may be perpetuating them (Ray & Davis, 2021; Gordon, et al., 2016). Nurses are seen as the most caring, trustworthy, and ethical profession time and time again and are often looked upon as role models in society (Broome, 2021). This dynamic produces a power imbalance that each nurse must acknowledge so as to not perpetuate inequities and injustices when interacting with diverse student populations. Structural competency training for school nurses provides the knowledge and skills to not only make an impact on the health of their students, but also on the institution and on the community.

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## Appendix A

### REQUEST FOR YOUR PARTICIPATION IN A QUALITY IMPROVEMENT PROJECT: Structural Competency: Addressing the Social Determinants of Health for School Nurses

The presenter, Rachel Torres, MS, RN, PHNA-BC is a district school nurse at Pittsburg Unified School District and San Jose State University graduate student. Dr. Tamara McKinnon, DNP, RN, FAAN, APHN is the San Jose State University faculty supervisor.

#### PURPOSE

The purpose for this DNP project is to determine whether or not a workshop on structural competency for school nurses influences their knowledge, skills, and attitudes on the influences that impact student health and inequitable outcomes. The information from this project will help us to understand the barriers faced and ways to prepare school nurses to address the social determinants of health among their student populations.

#### PROCEDURES

The attendees will be asked to complete a survey immediately before and immediately after the workshop. The workshop will be held in a virtual meeting space and the survey will be conducted online. The total time commitment will be approximately 1.5 hours - this includes time for the workshop and pre/post surveys.

Attendees will indicate consent by clicking on the survey option "Yes" to the question: "Do you agree to participate in this project?"

#### POTENTIAL RISKS

There are limited risks associated with this workshop. Potential risks include emotional distress due to discussion of race, privilege, and power. Attendees will be informed they can take a break or cease participation at any time. Local mental health and counseling resources will be provided to attendees.

#### POTENTIAL BENEFITS

Potential benefits of this project would be that school nurses would feel they have the knowledge, skills, and tools necessary to address the root causes of disease and disability among the children/students which may lead to decreased feelings of emotional and moral distress as well as burnout and compassion fatigue. With these increased feelings of empowerment, school nurses may become more confident in advocating for structural changes in their school district, community, state, nationally, and globally.



### COMPENSATION

There is no monetary compensation for participation.

The attendees will also have the opportunity to earn 1.5 continuing education units as deemed appropriate by the American Nurses Credentialing Center (ANCC).

### CONFIDENTIALITY

Data gathered for this project will be stored in a secure password protected file and will not have any personal identifiers. A randomly assigned unique identifier will be used to pair the pre and post surveys and all attendees completing the surveys will be anonymous to the researcher.

Throughout the training the presenter will establish that the space is a safe environment where participants are free to discuss topics without fear of retaliation or hostility. The presenter will also verbally state that all topics discussed in small or large groups will remain confidential.

**PARTICIPATION IN THIS PROJECT IS VOLUNTARY.** You are free to decline to participate in this project, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this project will have no influence on your present or future status at the XXX County School Nurse Network Group. Do you agree to participate in this project?

1. Yes
2. No

The following pre- and posttest survey was adapted with permission from: Metzl, J. M. & Petty, J. (2017). Integrating and Assessing Structural Competency in an Innovative Prehealth Curriculum at Vanderbilt University. *Academic Medicine*, 92(3), 354–359.

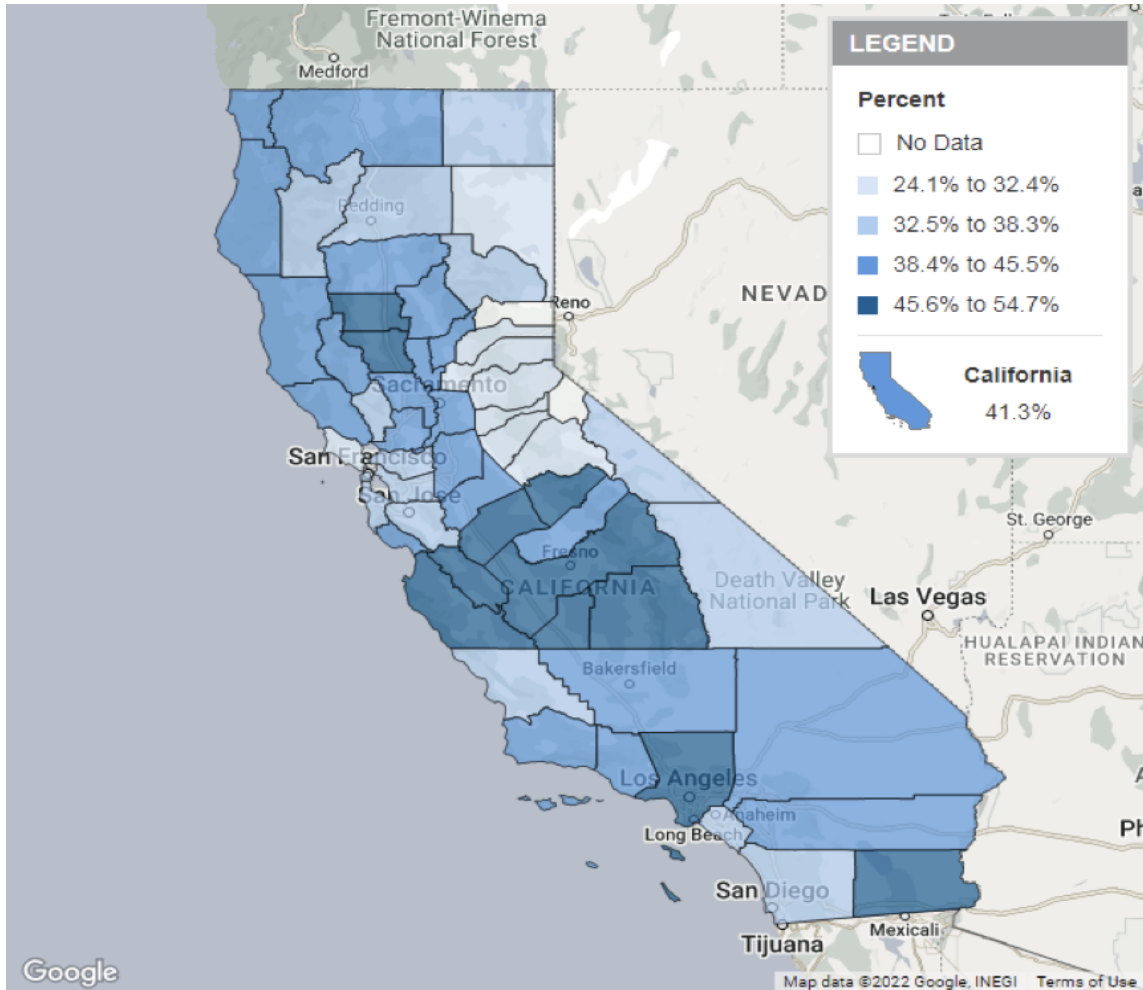
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DNP Project Pre/Post test

1. In your opinion, what are the three most important influences on people’s health?
2. Students Who Are Overweight or Obese, by Grade Level: 2019; Showing Counties (Grade Level: **Grade 5**)



Definition: Percentage of public school students in grades 5, 7, and 9 with body composition above the "Healthy Fitness Zone" of the FitnessGram assessment, by grade level (e.g., in 2019, 41.3% of California 5th graders were overweight or obese).

Data Source: [As cited on kidsdata.org](https://kidsdata.org). California Dept. of Education, Physical Fitness Testing Research Files (Jan. 2020).

- a. Choose 3 factors which best explain the findings above

- i. genetic factors
- ii. individual lifestyle choices
- iii. cultural background
- iv. health traditions and beliefs
- v. health literacy
- vi. physician bias
- vii. access to health care
- viii. health delivery system
- ix. health insurance
- x. institutional racism
- xi. medicalization
- xii. individual or family income
- xiii. neighborhood factors
- xiv. social policies

- b. Please briefly explain why you selected these three factors
3. “Black children were twice as likely as White children to have asthma. In addition, Black children have higher rates of emergency department (ED) and urgent care visits for asthma than White children. Additionally, Black children are more likely to die as a result of asthma than their White counterparts” (Fanta, Ladzkepo, & Unaka, 2021).
- a. Choose 3 factors which best explain the findings above
    - i. genetic factors
    - ii. individual lifestyle choices
    - iii. cultural background
    - iv. health traditions and beliefs
    - v. health literacy
    - vi. physician bias
    - vii. access to health care
    - viii. health delivery system;
    - ix. health insurance;
    - x. Institutional racism;
    - xi. medicalization;
    - xii. individual or family income;
    - xiii. neighborhood factors;
    - xiv. social policies
  - b. Please briefly explain why you selected these three factors

Read the scenario below and answer questions 4 - 7.

You are participating in a community Tdap vaccination campaign in the county in which you work. The target population is low income inhabitants across the county. You work with community members, agencies, businesses, and faith-based organizations to establish clinical locations convenient for your target populations. The locations decided upon tend to be near or in government buildings such as WIC, social service offices, schools, etc. After 1 month of using these sites for immunization clinics, the team reviews the data and notes that there are few Latino/a/x on the list of clients served. You also know that the county's population is more than 65% Latino/a/x. You suspect this is due to:

4. Cultural beliefs about immunizations
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree
  
5. Inadequate outreach in the Spanish language
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree
  
6. Fear of governmental agencies
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree
  
7. Socioeconomic policies
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree

## Demographics (Pre-test only):

8. What best describes your role as a school nurse?
  - a. School nurse staff (working directly with students)
  - b. Resource school nurse/Supervisor (available for/oversee multiple school sites)
  - c. School nurse administrator
  
9. How many students do you serve?
  - a. 500 or less
  - b. 501-1000
  - c. 1001-5000
  - d. 5001-10,000
  - e. 10,001 or more
  
10. How many years have you worked as a RN in the school setting (either part time or full time)
  - a. 0-5
  - b. 6-10
  - c. 11-15
  - d. 16+
  - e. n/a
  
11. Please select which credential you hold
  - a. Preliminary School Nurse Credential
  - b. Clear School Nurse Credential
  - c. I don't have either a preliminary or clear credential
  
12. If applicable, how many years have you held a clear credential?
  - a. 0-5
  - b. 6-10
  - c. 11-15
  - d. 16+
  - e. n/a
  
13. Which gender do you most identify with?
  - a. Woman
  - b. Man
  - c. Transgender
  - d. Non-binary/non-conforming

- e. Prefer not to respond
14. Which ethnicity do you most identify with?
- a. Hispanic/Latino/a/x
  - b. Not Hispanic/Latino/a/x
  - c. Prefer not to respond
15. Which race do you most identify with?
- a. Asian Indian
  - b. Cambodian
  - c. Chinese
  - d. Filipino/a/x
  - e. Hmong
  - f. Japanese
  - g. Korean
  - h. Laotian
  - i. Vietnamese
  - j. Samoan
  - k. Tahitian
  - l. Guamanian
  - m. Hawaiian
  - n. American Indian or Alaska Native
  - o. Black or African American
  - p. White
  - q. Mixed/more than one
  - r. Other - please specify
  - s. Prefer not to respond

Post-test only:

16. How valuable/useful was this training to you?

1= not at all valuable, 2=not valuable, 3= somewhat valuable, 4=valuable, 5=very valuable

17. Which elements of today's training did you find most valuable? Any tools/ concepts/ strategies that you found particularly useful?

18. In what ways (if any) do you expect to use or implement structural competency concepts and frameworks to you in your career?

## Appendix B



The Valley Foundation  
School of Nursing

San José State University  
One Washington Square  
San José, CA 95192-0067

TEL: 408-924-3130  
FAX: 408-924-3135  
nursing@sjsu.edu

**Date:** 10/19/22

**Project Title:** Structural Competency: addressing social determinants of health for school nurses

**DNP Student Name:** Rachel Rojo

**Doctoral Project Chair Name:** Tamara McKinnon

**Proposal Submission** [check all included items]:

- Proposal
- Full description of participant inclusion/exclusion, potential risk, data security plan
- CITI certificate
- SJSU IRB Exclusion Worksheet
- Agency/supervisor letter of support
- Data collection instruments, if applicable
- Confirmation of agency requirements for IRB submission (NOT agency IRB approval)

**DNP Program Approval:**

Yes

No

Comments:

If approved, proceed to Agency IRB, # 2.

**Agency (Doctoral Project Implementation Site) IRB:**

Agency IRB submission required?

Yes

No

There is no agency IRB.

Agency IRB is not required for this project.

**Comments:** Per letter of support, this project is a quality improvement effort for the agency

If yes, submit Doctoral Project Proposal to agency's IRB. **When you've received your approval letter, please forward to your advisor and proceed to SJSU IRB, #3.**

**3. SJSU IRB:**

SJSU IRB submission required?

Yes. If yes, see SJSU IRB site for required forms:

<https://www.sjsu.edu/research/irb/irb-forms/index.html> and work with chair to prepare prior to submission.

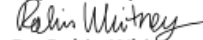
No (must be congruent with exclusion worksheet)

Comments: Project does not meet the definition of human subjects research per exclusion worksheet

**Student and Doctoral Project Chair Responsibilities:**

- The approval applies to the proposal as submitted. Any significant changes to the participants or procedures of the Doctoral Project must be reported to the student's project chair and advisor.
- Students must not begin work on the Doctoral Project until all required approvals have been obtained.
- Students and Doctoral Project Chairs must report any unanticipated problems to the student's advisor.

Approved by:

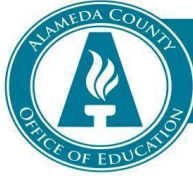


Dr. Robin Whitney

[robin.whitney01@sjsu.edu](mailto:robin.whitney01@sjsu.edu)



Appendix C



ALAMEDA COUNTY  
**Mental Health Resources**

[acoe.org/mentalhealth](http://acoe.org/mentalhealth)



**Crisis Hotlines & Textlines**

**A Safe Place Crisis Line**  
*Domestic Violence and Teen Dating Violence support*  
English, language interpreters as needed  
**510-536-SAFE (7233)**

**Bay Area Women Against Rape (BAWAR)**  
*24 Hour Crisis Line*  
English and Spanish  
**510-845- RAPE (7273)**

**Crisis Support Services of Alameda County**  
*24 Hour Crisis Line*  
English, language interpreters as needed  
**1-800-309-2131**

*Text message support from 4pm to 11pm*  
English  
**Text "SAFE" to 20121**

**Crisis Text Line**  
*24 Hour Crisis Line*  
English  
**Text "HOME" to 741-741**

**Family Violence Law Center**  
*24 Hour Crisis Line*  
English, language interpreters as needed  
**1-800-947-8301**

**National Suicide Prevention Lifeline**  
*24 Hour Crisis Line*  
English, Spanish, language interpreters as needed  
**Call/Text 988**

**Teen Line (Teens Helping Teens)**  
English  
Call: **1-800-TLC-TEEN (852-8336)** from 6PM-10PM  
Text: **Text "TEEN" to 839863** from 6PM-9PM



View our  
resources online



**Serving All of Alameda County**

**ACCESS**

*Information, screening and referral line for mental health, drug/alcohol services and treatment in Alameda County*  
English, Spanish  
**1-800-491-9099**

**Family Paths Parent Support Hotline**  
*24-hour support and mental health referrals, with offices in Oakland & Hayward*  
English and Spanish  
**1-800-829-3777**



**North Alameda County**

**BERKELEY**

**A Better Way**  
English and Spanish  
**510-601-0203**

**Berkeley Youth Alternatives**  
English and Spanish  
**510-845-9010**

**City of Berkeley Family, Youth & Children Services**  
English and Spanish  
**510-981-5280**

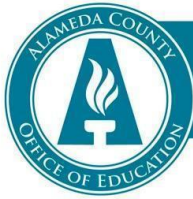
**Jewish Family & Community Services of the East Bay**  
English and Spanish  
**510-704-7475**

**OAKLAND**

**Asian Community Mental Health Services**  
English, Mandarin, Cantonese  
**510-869-6000**

**Brighter Beginnings Mental Health Services**  
English and Spanish  
**510-437-8950**

**Kaiser Permanente Oakland Child and Family Services**  
English, Spanish, Mandarin, Dutch, Hindi and language interpreters  
**510-752-1075**, option 4 for Child and Family



# ALAMEDA COUNTY Mental Health Resources

[acoe.org/mentalhealth](http://acoe.org/mentalhealth)

View our  
resources online



## North Alameda County *continued*

### OAKLAND *(continued)*

Pathways Counseling Center at Seneca  
English and Spanish  
510-504-6836

UCSF Benioff Children's Hospital Psychiatry  
Youth Uprising/Castlemont Health Center  
English, Spanish, and language interpreters as needed  
510-428-3556

Chappell Hayes/McClymond's Health Center  
English, Spanish, and language interpreters as needed  
510-835-1393

West Coast Children's Clinic  
English and Spanish  
510-269-9030

La Clinica de la Raza  
English and Spanish  
510-535-6200

Multi-lingual Counseling Center  
English, Spanish, Farsi, Hindi, Dari, Korean  
510-451-0661

Native American Health Center  
English and Spanish  
510-434-5421

West Oakland Health Center  
English, language interpreters as needed  
510-835-9610

Youth Uprising  
English  
510-777-9909



## South Alameda County

### ALAMEDA

Alameda Family Services  
English and Spanish  
510-629-6300

Community Health for Asian  
Americans (CHAA)  
Bengali, Bhutanese, Burmese, Cantonese,  
English, Hindi, Lao, Mandarin, Mien,  
Mongolian, Nepalese, Rakhaing, Russian,  
Spanish, Thai, Tibetan, Tongan, Urdu, and  
Vietnamese  
510-835-2777

### HAYWARD

Hayward Youth and Family  
Services  
English and Spanish  
510-293-7048

La Familia Counseling Services  
English and Spanish  
510-881-5921

### NEWARK

Multi-lingual Counseling Center  
English, Spanish, Farsi, and Dari  
510-451-0661

### SAN LEANDRO

Hively (formerly known as Family  
Service Counseling and Community  
Resource Center)  
English and Spanish  
510-483-6715

### REACH Counseling Center

English, Spanish, and language interpreters as  
needed  
510-481-4556

### UNION CITY

Kaiser Permanente Union City  
Child and Family Services  
English, Spanish, Cantonese, and language  
interpreters as needed  
510-675-3080

### Union City Youth and Families

English and Spanish  
510-675-5217  
510-675-5821 (for Spanish)

### CASTRO VALLEY

Eden Counseling Services  
English, Spanish, Portuguese, Japanese  
510-247-9831

Sequoyah Counseling  
Center  
English  
510-646-0123

### FREMONT

City of Fremont Youth and  
Family Services  
English, Spanish, Mandarin, Hindi, and  
Dari  
510-574-2100

### Hume Center

English, Cantonese, Hokkian, Malay,  
Mandarin, and Punjabi  
510-745-9151

### Kaiser Permanente Fremont Child and Family Services

English, Spanish, Mandarin, Taiwanese,  
Urdu, Punjabi, Hebrew, Hindi,  
Cantonese, ASL, language interpreters  
as needed  
510-248-3060



### Appendix D

#### *Project Variables and Measurement*

Variable Name	Operational Definition	Measurement
<p>Knowledge and critical thinking skills of structural influences on patient health and patient encounter</p>	<p>Knowledge - Cognitive domain of Bloom's Taxonomy; recognition and application of structural competency concepts</p> <p>Critical thinking skills - Psychomotor domain of Bloom's Taxonomy; ability to respond to the issue objectively and critically</p>	<p>Will include on both pre- and posttest and measure using open ended questioning and multiple choice questioning</p> <p>Open ended question: "In your opinion, what are the three most important influences on people's health?"</p> <p>Cases: -Regional disparities in Childhood Obesity Rates -Racial disparities in pediatric asthma rates</p> <ol style="list-style-type: none"> <li>1. Choose 3 factors which best explain the findings above           <ol style="list-style-type: none"> <li>a. genetic factors</li> <li>b. individual lifestyle choices</li> <li>c. cultural background</li> <li>d. health traditions and beliefs</li> <li>e. health literacy</li> <li>f. physician bias</li> <li>g. access to health care</li> <li>h. health delivery system</li> <li>i. health insurance</li> <li>j. institutional racism</li> <li>k. medicalization</li> <li>l. individual or family income</li> <li>m. neighborhood factors</li> <li>n. social policies</li> </ol> </li> <li>2. Please briefly explain why you selected these three factors</li> </ol> <p>Will only collect on the posttest and will measure using open ended questioning:</p> <ol style="list-style-type: none"> <li>1. In what ways (if any) do you expect to use or implement structural competency</li> </ol>

		<p>concepts and frameworks to you in your career?</p>
<p>Attitudes towards the structural influences on patient health and patient encounter</p>	<p>Attitudes - Affective domain of Bloom's Taxonomy; the worth or value placed on the behavior or phenomena presented</p>	<p>Will include on both pre- and post test and measure using 0-5 likert scale:</p> <p>Read the scenario below and answer questions.</p> <p>You are participating in a community Tdap vaccination campaign in the county in which you work. The target population is low income inhabitants across the county. You work with community members, agencies, businesses, and faith-based organizations to establish clinical locations convenient for your target populations. The locations decided upon tend to be near or in government buildings such as WIC, social service offices, schools, etc. After 1 month of using these sites for immunization clinics, the team reviews the data and notes that there are few Latino/a/x on the list of clients served. You also know that the county's population is more than 65% Latino/a/x. You suspect this is due to:</p> <ol style="list-style-type: none"> <li>1. Cultural beliefs about immunizations             <ol style="list-style-type: none"> <li>a. Strongly disagree</li> <li>b. Disagree</li> <li>c. Neutral</li> <li>d. Agree</li> <li>e. Strongly agree</li> </ol> </li>   <li>2. Inadequate outreach in the Spanish language             <ol style="list-style-type: none"> <li>a. Strongly disagree</li> <li>b. Disagree</li> <li>c. Neutral</li> <li>d. Agree</li> <li>e. Strongly agree</li> </ol> </li>   <li>3. Fear of governmental agencies             <ol style="list-style-type: none"> <li>a. Strongly disagree</li> <li>b. Disagree</li> <li>c. Neutral</li> <li>d. Agree</li> <li>e. Strongly agree</li> </ol> </li> </ol>

		<p>4. Organizational structures</p> <ul style="list-style-type: none"> <li>a. Strongly disagree</li> <li>b. Disagree</li> <li>c. Neutral</li> <li>d. Agree</li> <li>e. Strongly agree</li> </ul> <p>Will only collect on the posttest and will measure using 0-5 likert scale and open ended questioning:</p> <p>1. How valuable/useful was this training to you?</p> <p>1= not at all valuable, 2=not valuable, 3=somewhat valuable, 4=valuable, 5=very valuable</p> <p>2. Which elements of today’s training did you find most valuable? Any tools/ concepts/ strategies that you found particularly useful?</p>
<p>Nursing experience working in the K12 school setting, either part-time or full time</p>		<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>How many years have you worked in the school setting (either part time or full time)</p> <ul style="list-style-type: none"> <li>a. 0-5</li> <li>b. 6-10</li> <li>c. 10-15</li> <li>d. 15+</li> <li>e. n/a</li> </ul>
<p>School nurse credential status (will use for exclusion criteria)</p>		<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>Please select which credential you hold</p> <ul style="list-style-type: none"> <li>a. Preliminary School Nurse Credential</li> <li>b. Clear School Nurse Credential</li> <li>c. I don’t have either a preliminary or clear credential</li> </ul>

Number of years with a clear school nurse credential		<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>If applicable, how many years have you held a clear credential?</p> <ul style="list-style-type: none"> <li>a. 0-5</li> <li>b. 6-10</li> <li>c. 10-15</li> <li>d. 15+</li> <li>e. n/a</li> </ul>
Gender Identity		<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>Which gender do you most identify with?</p> <ul style="list-style-type: none"> <li>a. Woman</li> <li>b. Man</li> <li>c. Transgender</li> <li>d. Non-binary/non-conforming.</li> <li>e. Prefer not to respond</li> </ul>
Ethnicity Identity		<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>Which ethnicity do you most identify with?</p> <ul style="list-style-type: none"> <li>a. Hispanic/Latino/a/x</li> <li>b. Not Hispanic/Latino/a/x</li> <li>c. Prefer not to respond</li> </ul>
Race Identity	Aligned with California Government Code (GC) 8310.5.	<p>Will only collect on the pretest and measure using multiple choice questioning:</p> <p>Which race do you most identify with?</p> <ul style="list-style-type: none"> <li>a. Asian Indian</li> <li>b. Cambodian</li> <li>c. Chinese</li> <li>d. Filipino/a/x</li> <li>e. Hmong</li> <li>f. Japanese</li> <li>g. Korean</li> <li>h. Laotian</li> <li>i. Vietnamese</li> </ul>

		<ul style="list-style-type: none"><li>j. Samoan</li><li>k. Tahitian</li><li>l. Guamanian</li><li>m. Hawaiian</li><li>n. American Indian or Alaska Native</li><li>o. Black or African American</li><li>p. White</li><li>q. Mixed/more than one</li><li>r. Other - please specify</li><li>s. Prefer not to respond</li></ul>
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## Appendix E

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Aug 31, 2022

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Rachel Torres &lt;rachel.rojo@sjsu.edu&gt;

**Structural Competency instrument**

4 messages

Rachel Torres <[redacted]> Sat, Jun 18, 2022 at 2:35 PM  
To: "Woolsey, Colleen" <[redacted]>

Hi Dr. Woosley

I hope you are doing well! I am writing to obtain permission to adapt your structural competency survey instrument for use in my project as it relates to the school nurse setting and participants who are practicing nurses. Questions # 4-7 are the ones that I have adapted from your instrument. I have attached the survey for your review.

Thank you in advance for your time and consideration.

Kindly,  
Rachel

Rachel Torres, RN, MS, PHNA-BC

 Post test.pdf  
430K

Woolsey, Colleen <[redacted]> Mon, Jun 20, 2022 at 8:38 AM  
To: Rachel Torres <[redacted]>  
Cc: "Narruhn, Robin A" <[redacted]>

Hi Rachel,  
Thank you for asking. I am writing my colleague, Dr. R. Narruhn, to assure she is comfortable with this as well. Should let you know by end of week.  
Best,  
Colleen

Begin forwarded message:

[Quoted text hidden]

 Post test.pdf  
430K

Narruhn, Robin A <[redacted]> Mon, Jun 20, 2022 at 3:59 PM  
To: "Woolsey, Colleen" <[redacted]>, Rachel Torres <[redacted]>

Hi Rachel and Colleen,

Yes please do use the survey- and keep us posted on your results!

Best,  
Robin

Robin Narruhn PhD MN RN  
Assistant Professor  
Pronouns: *she, her, hers*  
412 Garrard  
College of Nursing, Seattle University  
901 12th Ave | Seattle, WA 98122



To set up an appointment with me [visit my bookings page](#)

---

**From:** Woolsey, Colleen <[redacted]>  
**Sent:** Monday, June 20, 2022 8:38 AM  
**To:** Rachel Torres <[redacted]>  
**Cc:** Narruhn, Robin A <[redacted]>  
**Subject:** Fwd: Structural Competency instrument

[Quoted text hidden]

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Rachel Rojo <[redacted]>  
To: "Narruhn, Robin A" <[redacted]>  
Cc: "Woolsey, Colleen" <[redacted]>

Tue, Jun 21, 2022 at 8:03 AM

Thank you both and will do!

Rachel Torres, MS, RN, PHNA-BC

On Jun 20, 2022, at 3:59 PM, Narruhn, Robin A <[redacted]> wrote:

[Quoted text hidden]



## Appendix G



**Inviting school nurses  
to participate in the workshop:  
A New Perspective on the  
Social Determinants of Health  
for School Nurses**

The data from this project will help us to understand the barriers faced and ways to prepare school nurses to address the social determinants of health within their student populations.

**PRESENTER**

Rachel Torres, MS, RN, PHNA-BC  
DNP student at SJSU  
District School Nurse at Pittsburg Unified School District

**WHEN**

Wednesday, November 2, 2022  
2pm - 3:30pm

**WHERE**

Zoom (click to join)

**REGISTRATION IS FREE**

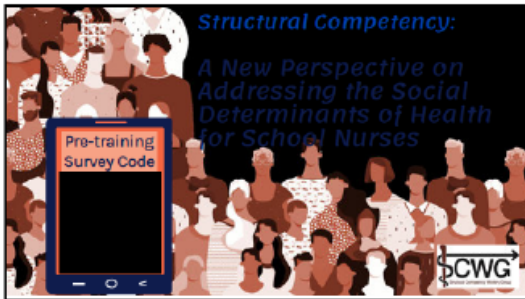
<https://forms.gle/PSi8CJ9nb5Mj24c57> (click to register)

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More information: [Rachel.rojo@sjsu.edu](mailto:Rachel.rojo@sjsu.edu)  
1.5 CE approved by the ANCC




Appendix H



### Structural Competency Working Group


- Started in East Bay in 2014; focused on integrating structural competency into the training and practice of healthcare providers
- Comprised of health professionals, scholars in the medical social sciences, community health activists, administrators, and graduate and professional students in several disciplines



2

### Facilitator Introductions

Rachel J. Torres, MS, RN, PHNA-BC  
 Doctor of Nursing Practice student  
 San José State University  
 The Valley Foundation School of Nursing  
 rachelrojo@sjsu.edu



### Group Agreements

We aim to create a safe space to learn and share with each other

- Positionality
- Privilege & blind spots
- Not experts
- Feedback



### Why are people poor/sick?



"No one has a right to work with poor people unless they have a real analysis of why people are poor."


Barbara Major, Director, St. Thomas Health Clinic



5

### Social Structures



The policies, economic systems, and other institutions (judicial system, schools, etc.) that have produced and maintain **modern social inequities** as well as **health disparities**, often along the lines of social categories such as **race, class, gender, sexuality, and ability**.



6

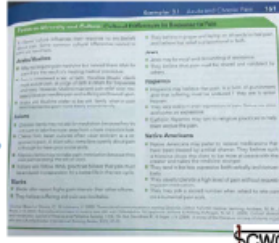

**Training Objective:**

By the end of the workshop, the participants will be able to differentiate individual, cultural, and structural factors that impact student health outcomes.


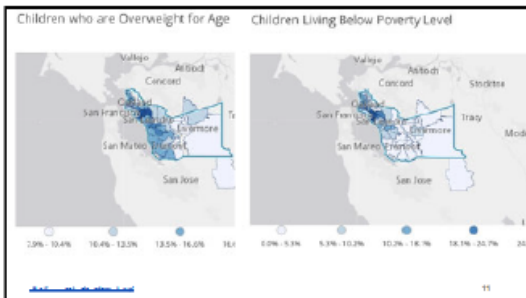
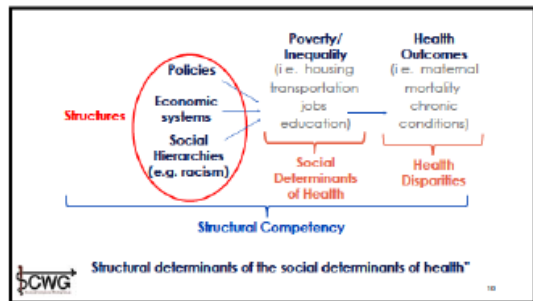
**Cultural Competency**

- Motivation: Providers and patients can misunderstand one another if they have different understandings of illness and health
- Cultural competency ideally helps providers to recognize that their own views are also culturally determined
- But it often became "list of traits" to memorize about various cultural groups - but not about people of European descent/ white people


**Cultural Humility**

- Developed out of a concern that some approaches to cultural competency were lists of stereotypes
- "A commitment and active engagement in a lifelong process that individuals enter into on an ongoing basis with patients, communities, colleagues, and with themselves"
  - Tervalon and Murray-Garcia, 1998

**Social Structures**

The policies, economic systems, and other institutions (judicial system, schools, etc.) that have produced and maintain modern social inequalities as well as health disparities, often along the lines of social categories such as race, class, gender, sexuality, and ability.



**Structural Competency**

Dr. Jonathan Metz      Dr. Helena Hansen

"A shift in medical education ... toward attention to forces that influence health outcomes at levels above individual interactions."  
-Metzl and Hansen 2014

The capacity for health professionals to recognize and respond to health and illness as the downstream effects of broad social, political, and economic structures.

CWG

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**Structural Competency**

Develop trainees' capacity in the following five areas:

1. Recognizing the influences of structures on patient health
2. Recognizing the influences of structures on the practice of nursing
3. Responding to the influences of structures in the school/clinic
4. Responding to the influences of structures beyond the school/clinic
5. Approaching all of the above with **structural humility**

-Neil, Knight, et al. 2007

CWG

1

**Structural Humility**

Structural humility cautions providers against making assumptions about the role of structures in patients' lives, instead encouraging collaboration with patients and communities in developing understanding of and responses to structural vulnerability.

-Based on talk by Helena Hansen, April 2015

CWG

14

**Case study**

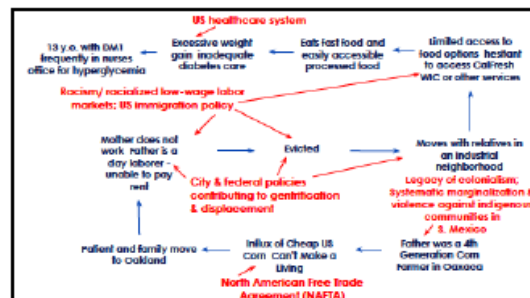
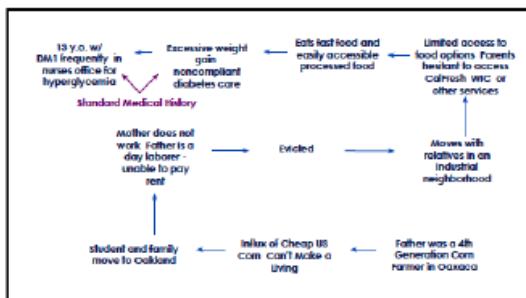
13 year old with Type 1 Diabetes, sent to office for falling asleep in class

PMH: dx w/DM1 a year ago; Frequent flyer for hyperglycemia; Overweight - BMI is 90%ile; inadequate diabetes care, non compliant with DMMP



Social hx: illegal immigrant, moved to Oakland from Oaxaca, Mexico when 5 years old, Mixtec spoken in the household, moved 2 months ago to a 2/2 apartment with relatives, has two younger siblings age 5 & 2, no established medical home, has Medi-Cal insurance, uninvolved parents

CWG

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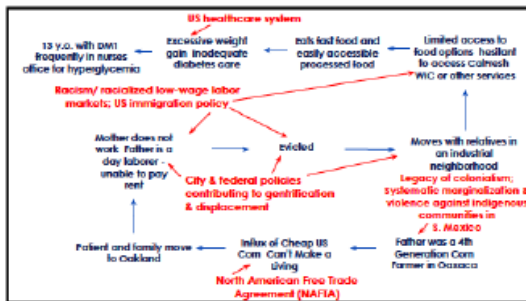
## Structural Violence & Structural Vulnerability

## Structural Violence

"Structural violence is one way of describing social arrangements that put individuals and populations in harm's way.. The arrangements are structural because they are **embedded in the political and economic organization of our social world**; they are violent because they **cause injury to people.**"



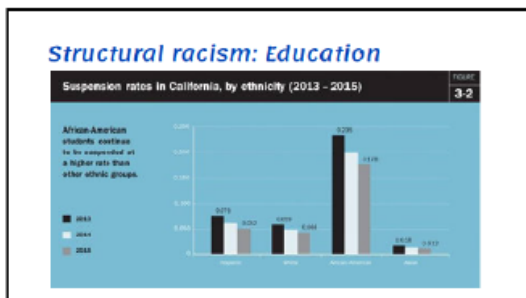
- Paul Farmer MD/PhD, et al. 2006

## Structural Racism

"Structural Racism is the normalization and legitimization of an array of dynamics: historical, structural, institutional, interpersonal that routinely advantages Whites while producing cumulative and chronic adverse outcomes for People of Color."

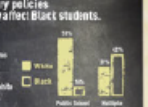
- Tricia Rose, PhD, Brown University

## SCHOOL-TO-PRISON PIPELINE

School disciplinary policies disproportionately affect Black students.


Three thousand discipline incidents resulted in Black students being disproportionately harder punished than white students in public schools.

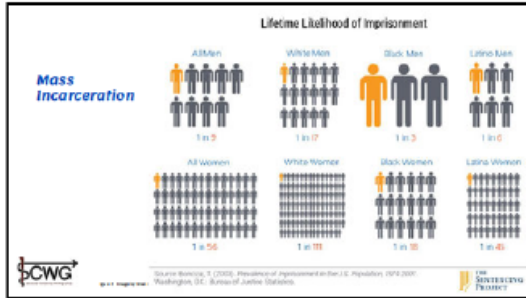


Black students represent **31%** of school-related arrests\*

Black students are suspended and expelled **3x** more than white students!

Students suspended or expelled for a disciplinary violation are more likely to be in contact with the juvenile justice system the following year!





### Mass Incarceration

Phenomenon	Myth	Reality
High rates of African American incarceration	High rates of drug use/abuse in African American communities	Similar rates of drug use and selling across racial groups
Increasing Incarceration rates in US for >30 years	Crime rates have been increasing	No correlation between crime and incarceration rates
War on Drugs launched in 1982	War on Drugs was a response to the crack epidemic	War on Drugs preceded the crack epidemic

SCWG

### Mass Incarceration

"The Nixon campaign in 1968, and the Nixon White House after that, had two enemies: the antiwar left and black people. You understand what I'm saying?

We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin. And then criminalizing both heavily, we could disrupt those communities. We could arrest their leaders, raid their homes, break up their meetings, and vilify them night after night on the evening news.

Did we know we were lying about the drugs? Of course we did."  
 -John Ehrlichman (Nixon advisor)

SCWG

### Structural Vulnerability

The risk that an individual experiences as a result of structural violence - including their location in multiple socioeconomic hierarchies. Structural vulnerability is not caused by, nor can it be repaired solely by, individual agency or behaviors.

Academic Medicine  
 Post Author Correction: Jun 12, 2016  
 doi: 10.1093/acam/00000000001294  
 Perspective: HCP, CWG

Structural Vulnerability: Operationalizing the Concept to Address Health Disparities in Clinical Care.  
 Boughey, Phillip PhD; Peters, Sarah R. MD, PhD; Cox, Kim MD, PhD; Quinlan, James MD

SCWG 28


- ### Structural Vulnerability
- Framework for operationalizing structural violence in clinical care
  - Consider domains in which an individual is structurally vulnerable
    - Analogous to other health risk factors
  - Can help facilitate comprehensive, patient-centered care

### Intersectionality

"Intersectionality is a lens through which you can see where power comes and collides, where it interlocks and intersects. It's not simply that there's a race problem here, a gender problem here, and a class or LGBTQ problem there. Many times that framework erases what happens to people who are subject to all of these things... Intersectionality can get used as a blanket term to mean, "Well, it's complicated." Sometimes, "It's complicated" is an excuse not to do anything...we want to move beyond that idea."

-Kimberlé Williams Crenshaw, JD


<http://www.law.columbia.edu/fp-br/news/00706/kimberle-crenshaw-intersectionality>




**Reflection:**

What are some examples of structural violence leading to poor health for students you have encountered?

What are the **structures** involved, and how are they **violent** (how do they harm people)?




Why is there not more widespread discussion of structural violence and structural vulnerability in our society, and more specifically, in health and health care?




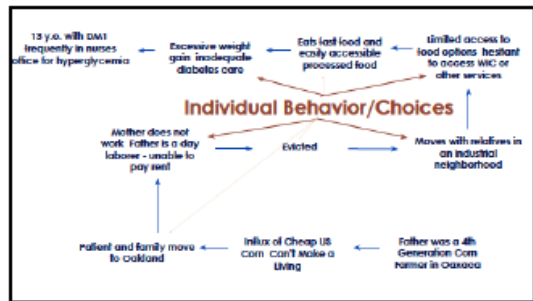
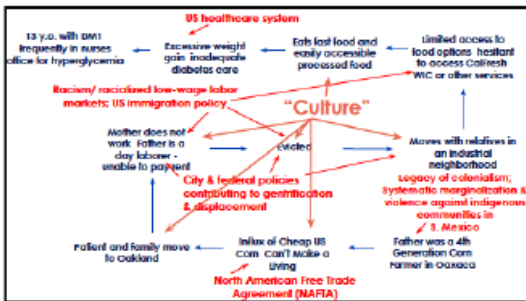
**Naturalizing Inequality**

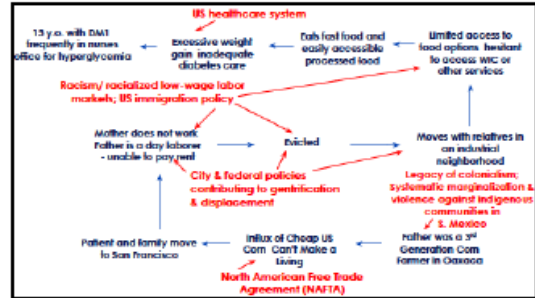
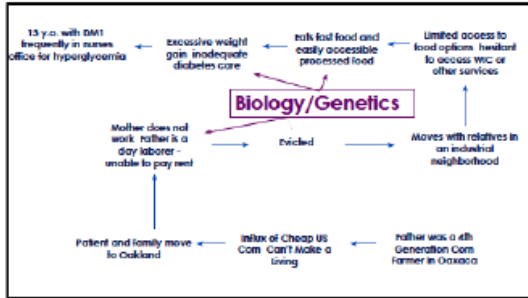
- The sometimes subtle, sometimes explicit, ways that structural violence is overlooked
- Often through claims of cultural difference, behavioral shortcomings, or racial categories...
  - which distract from the structural causes of harm
- Operates through "Implicit Frameworks"



**Implicit Frameworks**

- Taken-for-granted lenses through which health professionals and society frequently understand health and wellness. Implicit as in "implicit bias."
- Examples of Implicit Frameworks:
  - "Culture" (often vaguely defined and referenced to invoke stereotypes)
  - Individual Behavior
  - Biology/Genetics



**The Relevance of Fatalism in the Study of Latinas' Cancer Screening Behavior: A Systematic Review of the Literature**

Karla Espinosa de Los Monteros, Linda C. Gallo

Int J Behav Med. (2011) 18:310-318  
DOI 10.1007/s11259-010-9119-4

"Fatalism has been identified as a dominant belief among Latinos and is believed to act as a barrier to cancer prevention."

"Culture" 28

**Explaining the origins and distribution of health and disease: an analysis of epidemiologic theory in core Master of Public Health coursework in the United States**

Michael Harvey & Margaret McGlone

Critical Public Health. (2018) 2(4), 6-17  
DOI: 10.1080/20551662.2018.1525528

In a survey of public health theory courses:

- 93% of frequently taught theories of disease distribution are behavior/lifestyle-focused
- Only 1 was structural (fundamental cause theory)

Individual Behavior/Choices 8

Assuming positive intent and giving the provider the benefit of the doubt:

What are the factors that contribute to providers seeing patients in this way?

1

**Burnout Among Health Care Professionals**


Figure borrowed from "Is Professionalism Still Possible?" by Dr. Christine Casati

NATIONAL ACADEMY OF MEDICINE

*What are structurally competent interventions?*

**Black Panther Survival Programs**

- Health Clinics (Berkeley Free Clinic, West Oakland Health Center)
- Breakfast Programs
- Food Giveaways
- Legal Clinics
- Free Busing to prisons for families
- Sickle Cell Testing



SCWG

**Flint, MI Water Crisis**



SCWG

**Levels of Intervention**



1. Intrapersonal
2. Interpersonal
3. Clinic
4. Community
5. Research
6. Policy

SCWG

<p>↑</p> <p><b>In office for hyperglycemia</b></p> <p><b>Eats Fast Food, Excessive Weight Gain</b></p> <p><b>Hesitant to Access Public Services</b></p> <p><b>Can't Pay Rent, Moves to "food desert"</b></p> <p><b>Father Working as Day Laborer</b></p> <p><b>Moves to Oakland</b></p> <p><b>Influx of Cheap U.S. Corn</b></p> <p><b>4<sup>th</sup> Generation Corn Farmer in Oaxaca</b></p> <p>SCWG</p>	<p>Educate yourself and work against implicit and explicit racism and other bias</p> <p>Approach the student/family without blame or judgment</p> <p>Use an interpreter; diversify staff; provide structural competency training for all staff; restorative justice; balanced meals</p> <p>Advocate for safe outdoor spaces and affordable unprocessed food for community members</p> <p>Research the structural forces that affect the lives and health of people of color</p> <p>Advocate for just housing policy</p> <p>Organize against trade agreements that contribute to the exploitation of foreign labor</p> <p>Organize for universal healthcare</p>	<p><b>Individual</b></p> <p><b>Interpersonal</b></p> <p><b>School/Clinic</b></p> <p><b>Community</b></p> <p><b>Research</b></p> <p><b>Policy</b></p>
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7

**Three principles of action**

- (1) Improve the conditions of daily life
- (2) Tackle the inequitable distribution of power, money, and resources
- (3) Measure the problem, evaluate action, expand the knowledge base, develop a workforce trained in SDOH

COHEN (2008). Closing the Gap In a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.




**Structural Intervention is Possible**

Think of **one approach that is quite feasible** – something concrete that, with resources, could be done immediately.

For the other, use your **structural imagination**. Think big picture, bold, visionary! – an approach that requires organizing with others and perhaps time and risk to accomplish.

"It always seems impossible until it's done." -Nelson Mandela



**References**

[https://www.nursingworld.org/doi/10.1097/NNA.0000000000000000](#)

[https://www.nursingworld.org/doi/10.1097/NNA.0000000000000000](#)

[https://www.nursingworld.org/doi/10.1097/NNA.0000000000000000](#)

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### Appendix I

*Pretest responses regarding the three most important factors determining a person's health*

Factor Area	1 <sup>st</sup> Factor Reported		2 <sup>nd</sup> Factor Reported		3 <sup>rd</sup> Factor Reported	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Individual	8	32	18	72	9	36
Cultural	2	8	1	4	5	20
Structural	15	60	6	24	10	40

*Pretest responses regarding three factors which best explain the high percentages of childhood obesity*

Number of Factors	Non-Structural		Structural	
	Frequency	Percent	Frequency	Percent
0	4	16.0%	8	32.0%
1	9	36.0%	6	24.0%
2	6	24.0%	9	36.0%
3	6	24.0%	2	8.0%

*Comparison of the number of structural versus non-structural factors chosen on the pretest to best explain the high percentages of childhood obesity*

	<i>Mean</i>	<i>SD</i>
Non-structural	1.56	1.04
Structural	1.20	1.00

*Pretest open-ended responses regarding factors which best explain the high percentages of childhood obesity*

Nurse Open-ended Response Type	No. (%) of 13 responses
Discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism	11 (84.6%)
Explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities	10 (76.9%)
Explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities	4 (30.8%)

Addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences	0 (0%)
Closed-ended response included at least one cultural factor Open-ended response linked cultural factors with structural factors	11 9 (81.8%)
<p>Sample responses:</p> <ul style="list-style-type: none"> <li>• Non modifiable risk factors such as genes and modifiable risk factors such as lifestyle and health literacy all have an impact on a person’s overall health.</li> <li>• I think culture plays a large part in diet, exercise, health choices, as well as income.</li> <li>• Highest %'s found in locations associated with migrant workers, agriculture, limited access to health care, limited services and socioeconomic factors.</li> </ul>	

*Pretest responses regarding the three factors which best explain the higher incidence of asthma in Black children*

Number of Factors	Non-Structural		Structural	
	Frequency	Percent	Frequency	Percent
0	6	24.0%	6	24.0%
1	10	40.0%	5	20.0%
2	6	24.0%	11	44.0%
3	3	12.0%	3	12.0%

*Comparison of the number of structural versus non-structural factors chosen on the pretest to best explain the higher incidence of asthma in Black children*

	Mean	SD
Non-structural	1.24	0.97
Structural	1.44	1.00

*Pretest open-responses regarding factors which best explain the higher incidence of asthma in Black children*

Nurse Open-ended Response Type	No. (%) of 12 responses
Discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism	9 (75%)

Explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities	9 (75%)
Explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities	8 (68.7%)
Addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences	7 (58.3%)
Closed-ended response included at least one cultural factor Open-ended response linked cultural factors with structural factors	9 9 (100%)
<p>Sample responses:</p> <ul style="list-style-type: none"> <li>• This population has a history of being mistreated by the medical system and often live in neighborhoods with poorer air quality.</li> <li>• I think there is genetic predispositions to certain diseases, blacks have less access to health care which means more ER visits vs regular check-ups, and physicians may not treat blacks as well as whites medically, i.e., less tests and work ups with blacks.</li> <li>• Similar to the previous slide, socioeconomic factors -- largely about housing which is often found in densely populated areas near regions with poor air quality.</li> </ul>	

*Comparison of the number of structural versus non-structural factors chosen on the pretest to best explain why the Latino/a/x population might be underserved in a Tdap campaign*

	Mean	SD
Non-structural	4.35	0.65
Structural	3.50	0.71

*Posttest responses regarding the three most important factors determining a person's health*

Factor Area	1 <sup>st</sup> Factor Reported		2 <sup>nd</sup> Factor Reported		3 <sup>rd</sup> Factor Reported	
	n	%	n	%	n	%
Individual	4	23.5	4	23.5	5	29.4
Cultural	2	11.8	3	17.6	1	5.9
Structural	11	64.7	10	58.8	11	64.7

*Posttest responses regarding the three factors which best explain the high percentages of childhood obesity*

Number of Factors	Non-Structural		Structural	
	Frequency	Percent	Frequency	Percent
0	10	58.8%	6	35.3%
1	7	41.2%	4	23.5%
2	0	0.0%	3	17.6%
3	0	0.0%	4	23.5%

*Comparison of the number of structural versus non-structural factors chosen to on the posttest best explain the high percentages of childhood obesity*

	Mean	SD
Non-structural	0.41	0.51
Structural	1.29	1.21

*Posttest open-ended responses regarding factors which best explain the high percentages of childhood obesity*

Nurse Open-ended Response Type	No. (%) of 9 responses
Discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism	4 (44.4%)
Explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities	6 (66.7%)
Explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities	9 (100%)
Addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences	3 (33.3%)
Closed-ended response included at least one cultural factor Open-ended response linked cultural factors with structural factors	4 4 (100%)
Sample responses: <ul style="list-style-type: none"> <li>what is in your environment will affect what your exposed to</li> </ul>	

- I selected these because they impact many factors that contribute to health status of people.
- they are all impacted by the structure created from social policies.

*Posttest responses regarding the three factors which best explain the higher incidence of asthma in Black children*

Number of Factors	Non-Structural		Structural	
	Frequency	Percent	Frequency	Percent
0	9	52.9%	5	29.4%
1	6	35.3%	5	29.4%
2	2	11.8%	5	29.4%
3	0	0.0%	2	11.8%

*Comparison of the number of structural versus non-structural factors chosen on the posttest to best explain the higher incidence of asthma in Black children*

	Mean	SD
Non-structural	0.59	0.71
Structural	1.24	1.03

*Posttest open-responses regarding factors which best explain the higher incidence of asthma in Black children*

Nurse Open-ended Response Type	No. (%) of 6 responses
Discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism	3 (50%)
Explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities	3 (50%)
Explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities	5 (83.3%)
Addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences	3 (50%)
Closed-ended response included at least one cultural factor	2

Open-ended response linked cultural factors with structural factors	1 (50%)
<p>Sample responses:</p> <ul style="list-style-type: none"> <li>• Where a person lives and their access to healthcare largely dictates health outcomes. Also their understanding of disease and treatment impacts chronic illness management.</li> <li>• I chose these three because racist social policies have resulted in black families being more likely to live in areas that will increase their risk of asthma and decrease their access to quality health care.</li> <li>• The health delivery system impacts access to healthcare, forcing poorer families to seek less preventative care and more emergency care. The institutional racism that has been created from the social policies that keep black families poor in this country force children to live in areas where they have more exposure to living environments that render people more prone to asthma. The follow-up for blacks is likely not as thorough as for whites.</li> </ul>	

*Comparison of the number of structural versus non-structural factors chosen on the posttest to best explain why the Latino/a/x population might be underserved in a Tdap campaign*

	Mean	SD
Non-structural	3.54	0.63
Structural	3.96	0.69

*Comparison of the pre- and posttest responses for eight matched cases*

Question	N	Pretest		Posttest	
		Mean	SD	Mean	SD
1	8	1.13	0.99	2.13	0.84
2	8	1.50	0.93	1.50	1.41
3	8	1.63	1.19	1.50	1.07
4	5	-1.40	0.55	0.60	0.55

**Appendix J**

OPEN-ENDED RESPONSES

<b>individual-level factors</b>	<b>individual/family level structural factors</b>
genetic factors	access to health care
individual lifestyle choices	individual or family income
	health insurance
	<b>Social/political level structural factors</b>
<b>cultural factors</b>	institutional racism
cultural background	medicalization
health traditions and beliefs	health delivery system
health literacy	neighborhood factors
physician bias	social policies

<b>Coding Categories</b>	
<b>A</b>	Response discussed cultural factors in the context of social determinants of health (e.g., SES, neighbor factors, cost of health care), health systems, and/or institutional racism
<b>B</b>	Response explicitly described how individual- or family-level structural factors (income, educational level, insurance status, access to care) influence disparities
<b>C</b>	Response explicitly described how broad social and political structural factors (neighborhood environment, institutional racism, health delivery system, social policies) influence disparities
<b>D</b>	Response addressed relationship between race and health, e.g., physician bias, societal discrimination, institutional racism, and/or racial socioeconomic differences

PRETEST

**Question 2.** Choose 3 factors which best explain the high percentage of childhood obesity in California. Please briefly explain why you selected these three factors.

*Pretest open-ended responses regarding factors which best explain the high percentages of childhood obesity*

Closed-ended	Open-ended	Coded Response Category				linked A with B or C? Y/ N
		A	B	C	D	
1. health literacy, access	Area of lower income migrant farm workers	x	x			Y



	to health care, individual or family income	with <u>limited access</u> to resources and also <u>unknown how to</u> access services that are available.					
2.	access to health care, neighborhood factors, social policies	I think these factors contribute to <u>access</u> to healthy food, regular exercise, and overall health status.		x			
3.	genetic factors, individual lifestyle choices, health literacy	Non modifiable risk factors such as genes and modifiable risk factors such as lifestyle and health literacy all have an impact on a person's overall health.	x				N
4.	genetic factors, individual lifestyle choices, health literacy	Very sedentary society. <u>Family influence</u> physically and genetically make you more prone to health related issues	x				N
5.	health traditions and beliefs, access to health care, neighborhood factors	Lack of follow up health care when weight increases, <u>Lack of access</u> to outdoor and physical activities Some foods/ <u>cultures</u> have a <u>positive association with increased weight as "ok"</u>	x	x			Y
6.	cultural background, access to health care, individual or family income, neighborhood factors	Areas in darker blue may be in <u>lower income living conditions</u> or have <u>low access to healthcare</u> .	x	x			Y
7.	individual lifestyle choices, cultural	I think <u>culture plays a large part</u> in diet, exercise, health	x	x			Y

	background, health insurance	choices, as well as income.					
8.	health literacy, access to health care, individual or family income	It appears that there is more obesity at this age in <u>areas that are more rural and agrarian</u> , and areas where there are more <u>folks in a lower income bracket</u> . Food that is less nutritious, and that might have a higher carbohydrate content is less expensive, and is therefore more easily affordable by people in lower income groups. There is also probably less access to healthcare in these regions. An understanding of which foods are more nutritious, and how to lead a balanced healthy lifestyle is reflected by <u>health literacy</u> .	x	x	x		Y
9.	cultural background, health traditions and beliefs, health literacy, access to health care, health insurance, individual or family income, health delivery system	People living in this area are probably <u>low-income and do not have equitable access</u> to healthcare.	x	x			Y
10.	health traditions and beliefs, institutional	<u>Institutional racism</u> underscores all policies and practices leading to a healthy	x		x		Y

	racism,neighborhood factors	lifestyle. <u>Neighborhood environment</u> greatly impacts access to healthy foods. <u>Health traditions and beliefs</u> significantly influence an individual's food and dietary choices.					
11.	access to health care,individual or family income,neighborhood factors	I am assuming that obesity is correlated with lack of exercise and poor food choices/availability.		x			
12.	health literacy,access to health care,health insurance	These <u>areas appear to be mostly farmland</u> and likely have a high number of undocumented workers. <u>Undocumented workers may be apprehensive</u> to access health care if they think it could lead to deportation. It is also rural and <u>likely have less local hospitals and medical resources</u> to meet the needs of their communities.	x	x	x		Y
13.	cultural background,physician bias,access to health care,,individual or family income,health delivery system,institutional racismneighbor	Highest %'s found in <u>locations associated with migrant workers, agriculture, limited access to health care, limited services and socioeconomic factors.</u>	x	x	x		Y

	hood factors, social policies							
Total:		11	10	4	0	Y	N	
						9	2	
% (n = 13):		84.6	76.9	30.8	0	81.8	18.2	

**Question 3.** Choose 3 factors which best explain the higher incidence of asthma in Black children. Please briefly explain why you selected these three factors.

*Pretest open-responses regarding factors which best explain the higher incidence of asthma in Black children*

Closed-ended		Open-ended	Coded Response Category				linked A w/ B or C?
			A	B	C	D	Y/N
1.	access to health care, institutional racism, social policies	Because this is identifying a specific group of people			x	x	
2.	physician bias, access to health care, institutional racism	If you assume the problem is only based on <u>skin color</u> , that is all that you will see. Rather than <u>systemic health care racism</u> .	x		x	x	Y
3.	health traditions and beliefs, physician bias, neighborhood factors	This <u>population has a history of being mistreated by the medical system</u> and often live in <u>neighborhoods with poorer air quality</u> .	x	x		x	Y
4.	health literacy, health insurance, neighborhood factors	<u>Poor neighborhood</u> in areas w/ increased pollution, <u>Can't get urgent care appointments</u> , Can't get multiple prescriptions filled for several household families+school+backpack . ER does not teach families <u>how to avoid triggers, do preventive care, etc.</u>	x	x	x		Y
5.	genetic factors, cultural background, access to health care, health insurance, individual or family income	Gaining <u>access</u> plays a role in going to a regular Dr. Health insurance and <u>income disparity</u> .	x	x			Y

6.	health delivery system, neighborhood factors	<u>where you live</u> and depend on what you are exposed and can affect the severity of asthma		x			
7.	genetic factors, physician bias, access to health care	I think there is genetic predispositions to certain diseases, <u>blacks have less access to health care</u> which means more ER visits vs regular check-ups, and <u>physicians may not treat blacks as well as whites</u> medically, i.e., less tests and work ups with blacks.	x	x		x	Y
8.	access to health care, individual or family income, institutional racism	Kids who live in <u>poorer communities</u> have <u>less access to healthcare</u> , and live in areas with more pollution. All of this is reflected in the <u>institutional racism</u> existent in this country.		x	x	x	
9.	genetic factors, cultural background, health traditions and beliefs, health literacy, physician bias, access to health care, health insurance, individual or family income, health delivery system	<u>Social and environmental factors</u> create health disparities in African American households. <u>Lack of health care access</u> and communication.	x	x	x	x	Y
10.	health literacy, access to health care, neighborhood factors	Where a person lives dictates <u>access to important resources</u> including healthcare and clean air. <u>Health literacy</u> impacts how well an individual understands disease, treatment, and management.	x	x	x		Y

11.	health literacy, physician bias, access to health care, health insurance, institutional racism	Aside from the recent news about how <u>the pulse oximeter does not work as well on people of color; there is a history of medical abuse in America as well as continued health bias in our healthcare systems</u> that may lead to decrease in diagnoses and follow up based on broken trust between patient and physician.	x		x	x	Y	
12.	genetic factors, cultural background, health traditions and beliefs, health literacy, physician bias, access to health care, health insurance, individual or family income, neighborhood factors, social policies, health delivery system, institutional racism	Similar to the previous slide, <u>socioeconomic factors</u> -- largely about housing which is often found in <u>densely populated areas near regions with poor air quality.</u>	x	x	x		Y	
Total:			9	9	8	7	Y	N
% (n = 12):			75	75	66.7	58.3	100	0

POSTTEST

**Question 2.** Choose 3 factors which best explain the high percentage of childhood obesity in California. Please briefly explain why you selected these three factors.

*Posttest open-ended responses regarding factors which best explain the high percentages of childhood obesity*

Closed-ended	Open-ended	Coded Response Category				linked A w/ B or C?
		A	B	C	D	
1. access to health care, institutionalized racism, health literacy	Access to health care, institutionalized racism, health literacy	x	x	x	x	Y
2. institutional racism	It will only let me choose one at a time. I'm choosing institutional racism because it affects so many others.			x	x	
3. neighborhood factors	what is in your environment will affect what your exposed to			x		
4. neighborhood factors, individual or family income, health literacy	Neighborhood factors, individual or family income, health literacy	x	x	x		Y
5. health literacy, individual/family income, institutional racism, social policies	health literacy, individual/family income, social policies.	x	x	x		Y
6. Individual or family income, access to health care, neighborhood factors,	Will only accept one factor, but I would choose Individual or family income, neighborhood factors, access to health care because those are SDOH		x	x		



7.	social policies, institutional racism, and health delivery system	Social policies, institutional racism, and health delivery system (It only allowed one selection). I selected these because they impact many factors that contribute to health status of people.			x	x		
8.	individual or family income, access to health care, neighborhood factors, social policies	It wouldn't let me pick more than one. Also "neighborhood factors" and "income" and "social policies"		x	x			
9.	individual or family income, access to health care, social policies, health literacy	Access to healthcare, individual or family income, health literacy all impact health outcomes, and they are all impacted by the structure created from social policies.	x	x	x		Y	
Total:			1	2	5	2	Y 1/1	N 0
% (n = 5):			20	40	100	40	100	0

**Question 3.** Choose 3 factors which best explain the higher incidence of asthma in Black children. Please briefly explain why you selected these three factors.

*Posttest open-responses regarding factors which best explain the higher incidence of asthma in Black children*

Closed-ended	Open-ended	Coded Response Category				linked A w/ B or C?
		A	B	C	D	Y/N
1.	institutional racism			x	x	
2.	health literacy, access to health care, neighborhood factors	x	x	x		Y

		<u>and treatment impacts chronic illness management.</u>						
3.	social policies, individual/family income, health insurance and access to health care.	social policies, individual/family income, health insurance and access to health care.		x	x			
4.	health literacy, access to health care, neighborhood factors	Social determinants of health, along with <u>understanding of treatment of condition.</u>	x				N	
5.	institutional racism, neighborhood factors, social policies	I chose these three because <u>racist social policies</u> have resulted in black families being more likely to <u>live in areas</u> that will increase their risk of asthma and decrease their <u>access to quality health care.</u>			x	x		
6.	access to health care, individual or family income, health delivery system, institutional racism	The <u>health delivery system</u> impacts <u>access to healthcare</u> , forcing poorer families to seek less preventative care and more emergency care. The <u>institutional racism</u> that has been created from the social policies that <u>keep black families poor</u> in this country force children to live in areas where they have more exposure to living environments that render people more prone to asthma. The follow-up for blacks is likely not as thorough as for whites.		x	x	x		
Total:			2	3	4	3	Y 1	N 1
% (n = 6):			33.3	50	66.7	50	50	50