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NTCHS© Health Literacy Intervention Pilot Study

Genevieve Evenhouse

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ABSTRACT

NTCHS© HEALTH LITERACY INTERVENTION PILOT STUDY

This pilot study explored the effectiveness of a validated curriculum called, “Navigating the Health Care System” (NTHCS©) in improving the health literacy of high school-aged adolescents in response to the national call to promote knowledge and skills in all ages, and socio-economic and cultural groups to achieve healthier lives. Low health literacy has been shown to greatly affect the quality of lives, health outcomes, and health spending of individuals with and without health conditions across social demographics. High school-aged adolescents are the population of interest of this study due to their developmental milestones which allows for knowledge and skill building and whose responses to interventions like the NTHCS© curriculum would help shape the future health outlook of the nation. A quasi-experimental research method is used to determine if the intervention improves health literacy of the targeted vulnerable population which is reached through convenience sampling after parental consent and minor assent are obtained. Data gathered are from the pre- (N=151) and post-intervention (N= 121) surveys completed by participants which included self-reported age, sex/gender, and grade level. Results of study found the health intervention to be effective in improving the health literacy level of adolescents through increases in mean scores post intervention.

Genevieve Evenhouse
May 2020

NTCHS© HEALTH LITERACY INTERVENTION PILOT
STUDY

by
Genevieve Evenhouse

A project
submitted in partial
fulfillment of the requirements for the degree of
Doctor of Nursing Practice
California State University, Northern Consortium
Doctor of Nursing Practice
May 2020

APPROVED

For the California State University, Northern Consortium
Doctor of Nursing Practice:

We, the undersigned, certify that the project of the following student meets the required standards of scholarship, format, and style of the university and the student's graduate degree program for the awarding of the Doctor of Nursing Practice degree.

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CHAPTER 1: INTRODUCTION

Teenagers face challenges related to establishing their identity, family and peer relationships, finance, prospects of the future, and schoolwork (Irvin, 1996). Gecas and Seff (1990) wrote a metanalysis on adolescents' life in the 1980s and highlighted issues faced by adolescents such as the ones noted by Irvin (1996). Crosby, Santelli and Diclemente (2009) enumerated similar developmental and psycho-social challenges faced by adolescents in a chapter of the book, "Adolescent Health". No matter what decade, adolescents seem to go through the same "growing pains". Adolescents' responses to these challenges lead to either healthy and sustainable skills that serve them well into adulthood or to delinquency, irresponsibility, and risky behaviors that places them at greater risk for injuries and other health conditions that severely impact their health status in adulthood. Providing health literacy intervention to adolescents helps address one of Healthy People 2020's goals, which is the promotion of knowledge and skills that will lead to healthier lives among all age and social groups (Center for Disease Control/ National Center for Health Statistics, 2011).

Health Literacy and Adolescents

Health literacy (HL) has been defined as the skills needed to use the services of health care providers like doctors, nurse practitioners, dentists, and other specialists in clinics or hospitals correctly and timely in order to be healthy or handle one's health issues better (Ratzan & Parker, 2000). In addition, health literacy involves skills, such as being able to read and write, calculate numbers, communicate healthcare professionals and use health technology, in order to engage in the healthcare system and retain good health (Mahadevan, 2013). The three most common health-related topics adolescents discuss among themselves

were about medical, reproductive, and mental health issues in addition to topics frequently discussed by adolescents on about peer relationships, injuries, substance use, exercise and food, and family issues (Cohall, et. al., 2007).

In a meta-analysis, Fleary, Joseph, and Pappagianopoulos (2018) found several studies on adolescents that showed HL and health behaviors, like alcohol and tobacco use, medical adherence, and information-seeking, are correlated. One of these findings reflected that adolescents with low HL have a higher tendency to drink alcohol (Chisolm, Manganello, Kelleher, & Marshal, 2014). Conversely, Massey, Prelip, Calimlim, Quiter, and Glik (2012) concluded that adolescents who possessed HL skills were able to navigate the health care system despite facing barriers.

Purpose of Health Literacy Intervention in Adolescents

Health literacy has three levels which were defined by Nutbeam (2000) based on the premise of educational literacy. These levels are basic or functional (level 1), communicative or interactive (level 2), and critical (level 3) health literacy. Basic or functional health literacy is achieved when one receives information on health risks and on the use of the health system (Nutbeam, 2000). Teaching basic health literacy to adolescents will allow them to take pride in their ability to keep themselves informed and healthy through engagement of their natural curiosity to learn more about health topics that affect them. Ruggeri, Gummerum, and Hanoch (2014) found that adolescents wanted to be involved in making health decisions. Health literacy intervention empowers adolescents by teaching them basic understanding of health terminologies and acquiring related skills and giving them the opportunity to practice what they learned to make better health choices and live healthier as adults (Fleary, et al., 2018).

Effects of Low Health Literacy

Low health literacy is associated with poor health outcomes due to a multitude of factors; delay in accessing and using health services, poor communication with healthcare providers, inability to follow care instructions, and minimal understanding of health condition and its management (Berkman, Sheridan, Donahue, Halpern & Crotty, 2011). Gulyas, et al. (2016) supported the findings of Berkman, et al. (2011) and found that poor health outcomes translate to more emergency room visits, more hospitalizations, low satisfaction with healthcare providers and service, health plans, among others and lower adherence with evidence-based measures. Gulyas, et al. (2016) also noted that study participants with low HL spent more money on health-related costs that would increase overall healthcare expenditure.

With all of these aforementioned negative effects of low HL, it makes sense to try to prevent these from happening as a public health strategy. This is done by investing in the future; the adolescents and their health which was endorsed by the United Nations International Children's Emergency Fund in 2011 (Resnick, Catalano, Sawyer, Viner, & Patton, 2012). Manganello (2008) considered improving HL in adolescents as an early intervention and prevention health strategy that would lead to positive outcomes as adolescents grow into adulthood. Further, the author noted that HL skills are highly relevant for those adolescents with chronic illnesses, whose numbers are growing. Compared to adults, there are fewer studies on adolescent health literacy (Dharmapuri, et al., 2015; Perry, 2014).

Proposed Intervention

The author proposes to study the effect of a validated health literacy curriculum developed by Nemours Children's Health System's (2019) called, "Navigating the Health Care System (NTHCS)" in an urban high school in CA.

The author will try to address the racial/ethnic disparity in HL by conducting the study in a high school which serves English language learners, minority, and newly-immigrated adolescents. The research study aims to answer the question; “In high-school aged adolescents, how effective is the curriculum called, “Navigating the Health Care System” (NTHCS) in improving health literacy before and after intervention?”. This project’s focus area has the potential to inform policymakers and healthcare providers as well as community stakeholders like educators and school nurses to assist in the improvement of health literacy among adolescents.

SCT and Health Literacy Intervention in Adolescents

Social cognitive theory (SCT) evolved from social learning theory, which was conceived by Albert Bandura in 1997, based on his observation of people (Braungart & Braungart, 2018). Bandura concluded that learning happens indirectly through role models; seeing others who are deemed to be interesting and whose actions are emulated (Braungart & Braungart, 2018). He also believed that the learner possesses full control of the learning process and sociocultural factors affect learning (Braungart & Braungart, 2018). He also emphasized the idea of the individual learner as an “agent” who has to navigate between the environment, the person, and the behavior (Braungart & Braungart, 2018). Additionally, Bandura identified the phases of learning which include what is learned (attentional phase), keeping what has been learned (retentional phase), repeating learned skill or behavior (reproduction phase), and based on the learner’s reason or purpose, either uses or abandons what was learned (motivational phase) (Braungart & Braungart, 2018).

Theory Concepts

Bandura (2015) emphasized that SCT was founded on the belief that individuals have the inherent knowledge, power, and autonomy to evaluate their needs and act accordingly to bring about the resolution of any identified conflict or need. These innate characteristics of an individual encompass what Bandura refers to as “human agency”. The processes involved in the resolution of a conflict or need like in learning, are forethought, self-regulation, and self-reflection which are part of “human agency”. These are closely connected to the concept of self-efficacy in SCT. According to Bandura (2015), self-efficacy relates to the individual’s ability to change existing or adopt new behaviors or skills by using all the resources that the individual has. Adolescents are naturally inclined to practice self-efficacy as they undergo cognitive, emotional and physical changes while interacting with their families, peers, and members of their social network (Dahl, Allen, Wilbrecht, & Ballonoff Suleiman, 2018). They practice self-efficacy in asserting their independence especially when they make decisions on their own. The level of one’s self-efficacy determines how successful an individual is in achieving goals set in learning. Because of this, self-efficacy is an important predictor of learning (Srof, Veldor-Freidrich, & Penckofer, 2012).

Reliability of SCT

Bandura’s SCT has been published, researched and tested. Several research studies have used SCT as their theoretical framework. Examples of these studies include an evaluation study of a federal program called, “Youth Development Program” by Price Dooley and Schreckhise (2016), a study on relational aggression across early adolescence by Espelage, Merrin, Hong, and Resko (2018), and a study on non-suicidal self-injury among adolescents and young

adults by Hasking and Rose (2016) among many others. The concept of self-efficacy in SCT has been challenged which Bandura (2015) has responded.

Applicability of SCT

Social cognitive theory and its concepts are very relevant to the selected population and area of focus. The adolescent participants of the study will determine for themselves what they would want to learn from the basic literacy intervention and decide which newly learned skills or knowledge would be kept and adopted into their lives. They will do this as they juggle with much other information presented to them in the school and their responsibilities at home and in their communities. Their ability to plan, self-reflect, and self-evaluate will be put to test as they assert themselves and practice independence from their parents and their peers. The adolescents, just like the learners in Bandura's SCT, have to negotiate their way among the many changes that occur within themselves (the person), their social environment (environment), and the basic health literacy intervention (behavior) which is the focus of this doctoral project.

CHAPTER 2: LITERATURE REVIEW

Health Literacy Overview

The World Health Organization (WHO) (2013) highlighted the increasing need for the modern men and women to find balance in their lives as they make decisions in managing family and social responsibilities and staying healthy. The WHO (2013) asserted that despite the availability of information and the advancement of science and technology, the modern man struggles to keep himself healthy as he goes through life and finds his way through the convoluted health care system which he is not fully-equipped to navigate. This phenomenon is referred to as a “health literacy crisis” (p.1) by the WHO (2013).

The European Health Literacy Consortium (2012) described health literacy in the following statement:

Health literacy is linked to literacy and entails people’s knowledge, motivation and competencies to access, understand, appraise and apply health information in order to make judgments and take decisions in everyday life concerning health care, disease prevention and health promotion to maintain or improve quality of life during the life course. (p.4, WHO, 2013)

The ability or inability to take appropriate actions to find answers and solutions to health-related questions is reflective of one’s health literacy level (HLL). Ownby, Acevedo, Waldrop-Valverde, Jacobs, and Caballero (2014) referenced several studies that linked HL to the patient’s health behaviors, health condition, use of healthcare facilities, and morbidity and mortality and emphasized HL as a significant factor in health disparities related to race and ethnicity.

Furthermore, the WHO (2013) declared HL as “a key determinant of health” (p. 7). This declaration is based on the following:

- high literacy rates in population groups benefit societies;
- limited HL, measured by reading skills, significantly affects health;
- limited HL follows a social gradient and can further reinforce existing inequities;
- building personal HL skills and abilities is a lifelong process;
- capacity and competence related to HL vary according to context, culture, and setting; and,
- limited HL is associated with high health system costs (WHO, 2013, p. 7-8).

Adolescent Health Literacy and Media

Adolescents are in that phase of human development characterized by “rapid growth and foundational learning associated with distinct neuro-maturational changes”, which “include structural and functional changes in the brain—particularly neural systems involved in cognitive, emotional, social and motivational processes” (Dahl, Allen, Wilbrecht, & Ballonoff SuIeiman, 2018, p. 441). Dahl, Allen, Wilbrecht, and Ballonoff SuIeiman (2018) also recognized the rapidly increasing global movement to invest in the adolescents whose population is rising along with the socio-cultural changes worldwide, and the adolescents’ impact on the global society as early adopters of information technology. According to Anderson and Jiang (2018) of the Pew Research Center, 95% of teenagers in the United States, aged 13 to 17 years have access to a smartphone. This is a huge jump from a similar report by Lenhart (2015) three years ago, which

reflected 71% of teens participating in the survey as having access to a smartphone. Although the 2018 report reflected a shift in which social media teens frequently access, close to half of the surveyed teens (45%) disclosed that they are online most of the time. The majority of the teens access YouTube, followed by Instagram, Snapchat, Facebook, and Twitter. Manganello (2008) also highlighted the frequent use of media by adolescents and emphasized the need to strengthen adolescents' HL as media has been proven to influence their behaviors and pointed out that literacy, in general, is a challenge among adolescents. Chisolm et al. (2014) also noted this literacy problem among adolescents and added that most adolescents cannot read well. The adolescents' use of the Internet and social networking platforms poses an additional burden when they are unable to understand what they are reading. Chisolm et al. (2014) emphasized that teens may have challenges in determining the positive or negative values and effects of messages received from these platforms on their health-related behaviors. They are at risk of being misinformed on the topics that they seek most online like sexual health (Wartella, Rideout, Montague, Beaudoin-Ryan, & Lauricella, (2016).

Health Literacy of Population of Interest

Sentell and Braun (2012) laid the foundational historical perspective of HL among minority populations in CA; the setting of this research project. Sentell and Braun (2012) wanted to know if the prevalence of low HL by limited English proficiency (LEP) differed among 48,427 participants who represented diverse groups, Latinos and Asian American subgroups, and to measure the effect of LEP and low HL across these groups by using the data from the 2007 California Health Interview Survey (CHIS). The data from the 2007 CHIS was analyzed using Stata 11 to accommodate the complex sample design, chi-square analysis, and

multivariate logistic regression. The study showed low HL was common among those with LEP, low HL and LEP resulted in poor health status, LEP led to more vulnerability than low HL, and the relationship between low HL and LEP and health status differed by racial/ethnic groups. One strength of this study was the volume of data used while one of its weakness was the fact that some ethnic/racial groups like Filipinos, Japanese, and Koreans were not represented in the study due to the data source.

Vulnerability of adolescents with low HL. Manganello and Sojka (2016) focused on the vulnerability of adolescents who were found to have low HL. Manganello and Sojka (2016) wanted to find out the effects of low HL on African American (AA) adolescents and conducted individual 30 to 45 minute-interviews of 48 African American (AA) adolescents, aged 14 to 17 years. The study sample was recruited through a community-based organization that provided after-school youth program which made up of mostly female (70%) and the majority were in the 10th to 12th grade (70%). The interview questions revolved around adolescent health-seeking behaviors such as frequency and use of health information (HI) sources, communication with health care providers (HCPs), and visit experience with their HCPs. The participants' HL was assessed using the Rapid Estimate of Adolescent Literacy in Medicine (REALM-Teen) while the responses of the interview questions were analyzed using a semi-qualitative analysis. Almost all of the participants (94%) attributed learning useful HI at school, mostly in health classes. The majority identified the HCPs as important sources of HI despite some concern related to not understanding written material provided by the HCP. The study also found 65% of the participants were in the low HL group and most of them rely on their caregivers. One strength of this study was purposely sampling a

vulnerable population while its weakness was the low number of study participants.

Chisolm, Manganello, Kelleher, and Marshal (2014) highlighted adolescents' HL and how it is reflective of their behavior towards alcohol use. Chisolm et al. (2014) explored "the relationships between HL, alcohol expectancies, and alcohol use behaviors" (p. 292) through the purposive sampling of 239 adolescents aged 14 to 19 years who attended adolescent medicine clinics in urban cities. The study participants were mostly female (70%), less than half (45%) were white, and 54% reported to have at least one parent with some college education. The REALM-Teen was used to assess HL while alcohol expectancies were measured using the comprehensive expectancies of alcohol measure in addition to the assessment of alcohol use behavior using a questionnaire. Descriptive statistics, chi-squared test, and student's t-test were used in the analyses of data. The study results showed more than 75% of participants had high HL, 45% used alcohol in the past six months, 31% had problems associated with drinking, and 20% had at least one incident of binge- drinking. Low HL was observed in participants who were younger in age, Black, received free lunch and whose parents had a lower educational level. One strength of this study was the provision of adolescent decision-making models that explained the effect of HL on the relationship between expectancies and alcohol use behavior while one of its weakness is the omission of the significance of female participants' alcohol use.

Health literacy of adolescents with chronic conditions. Chisolm, Johnson, and McAlearney (2011) focused on the HL of adolescents with chronic conditions like asthma and diabetes. Chisolm et al. (2011) studied the use of selected health websites by 129 teens, aged 13 to 18 years who were patients of

four asthma and diabetes specialty care clinics located in urban and suburban communities using a mixed model analysis. Participants' reading level, HL, internet access and use, and perception of health technology as well as demographics were assessed before they were given a resource sheet of health websites. The study participants were provided a diary to track their use of online HL for 3 months including those on the resource sheet. Data were analyzed using descriptive statistics, chi-square test, Fisher's exact test, and grounded theory approach. The study found no significant difference in self-reported use of websites by HL, reading level, age, race, internet use, or disease, and general and teen HL sites were most used (39% and 38% respectively). Sixty-two percent of participants who had adequate HL (84%) reported the use of the internet at follow up compared to 50% of those with low HL (15%). The study also found a lack of interest in HL was the greatest barrier to web site use. One of the study's strengths was the recruitment of study participants in both suburban and urban areas while one of its weakness was its omission in finding out what other websites teens used during the study if any as reflected in their diaries.

Adolescent health-seeking behavior. Coles, et al. (2016) emphasized the need for HL intervention among adolescents in order to boost their knowledge and skills and impact appropriate health-seeking behaviors. In that study, more than a thousand high school students in a public high school, aged 14 to 19 years were involved and their mental HL (MHL) were evaluated. Specifically, Coles, et al. (2016) wanted to find out if participants were able to differentiate depression from social anxiety using a Strengths and Difficulties Questionnaire (SDQ) and a revised version of Friend in Need Questionnaire. For data analysis, chi-square tests of independence, analyses of variance, Student-Newman-Keuls post hoc

tests, and binary logistic regressions were used to test the study's five hypotheses. Coles, et al. (2016) found girls to have higher MHL; social anxiety disorder was not easily recognized, and depression was easily recognized in males than in females. One of the study's strengths was the use of vignettes in the revised Friend in Need Questionnaire to assess the participants' MHL while one of its weaknesses was the unclear use of the SDQ.

Summary of literature review

Based on the above-mentioned research studies, it is clear that a) an HL intervention geared towards improving health literacy is needed, b) adolescents are highly capable of being active participants of health-related processes, and c) minority groups are at a disadvantage when it comes to accessing health information. Based on these studies, a basic understanding of the health care system by the adolescents is needed to provide them with a solid foundation in maintaining their health and managing any illness that may come their way. In addition, none of these studies addressed the racial/ethnic disparity related to HL among minority groups. These gaps would be attended to by the author's proposed research project which aims to empower high-school aged adolescents through a basic HL intervention.

CHAPTER 3: METHODOLOGY

Setting and Study Population

A public high school in the San Francisco Bay Area is the setting of the project and its students, the sample population of interest. According to the California Department of Education (2017), there were 2, 072 students enrolled at the proposed research site for the school year 2016-17. Half of the student population was from families who were economically disadvantaged, and 17.4% of the populations was English language learners. According to the San Francisco Wellness Initiative Report (San Francisco Unified School District [SFUSD], 2017), 90% of the student population were from minority groups; half of which were Asians (52%) followed by Hispanic or Latino (25%), then African American (5%) and Filipino (4%) (SFUSD, 2017). This ethnic distribution reflects the emerging trend in the demographic shift of the United States' population where the minority groups are rapidly increasing to become the majority due to immigration (U.S. Census Bureau, 2010).

Study Participants

The sample population was high students enrolled in the Advancement Via Individual Determination (AVID) and the College and Career (CAC) classes. These classes comprised of 9th to 12th graders, whose ages ranged from 14 to 19 years. The AVID students do not take health education classes delivered by a health education teacher while the CAC students may or may not have received the required semester-long regular health education class.

Recruitment. Participants of the study were recruited via the classes above, and their assent (refer to Appendix A) sought after their parents provided consent

(refer to Appendix B) through the opt-out procedure. Parents' consents were solicited through an opt-out procedure in accordance to the policies and procedures of the SFUSD as approved by its Institutional Review Board (IRB) and that of CSU-Fresno's IRB. The opt-out procedure involved giving parents and guardians of prospective participants the consent forms and requiring them to return the forms with signatures to the school indicating their decision to exclude their children from participating in the study. Parent and guardians gave the consent forms back to school the teachers through their children. This meant that the consent forms were collected back from the students. The study involved 194 prospective participants. Classroom teachers or their designees' assistance were sought during recruitment of participants. This was done by meeting with the classroom teachers before the study started and sharing with them the study details including their roles in the study. The researcher asked for 5-15 minutes of their instruction time to inform students about the study and distribute and collect consent forms.

Project Details

This quasi-experimental study assessed baseline HL level of participants before the implementation of the basic HL intervention using the NTHCS© 4-module curriculum. The use of these modules, which was free of charge, had been approved by Nemours Children's Health Systems' manager of practice and prevention, Kate Blackburn (K. B. Blackburn, personal communication, January 16, 2019; see Appendix C). The NTHCS© modules (basic health literacy intervention) was delivered by the author through presentations of the NTHCS© 4-module curriculum in participating classrooms. Each presentation took 45 to 90 minutes. The first presentation was the longest which included a pre- intervention

assessment and collection of participants' assents. After completion of the classroom presentations of the basic HL intervention, a post-intervention assessment was conducted. Data was collected anonymously in both pre and post-intervention assessments. This meant no identifying personal information of the participants was collected except for age, grade level, and sex/gender which were self-reported. Data collected was safeguarded and locked by the author using a password protected computer and lockable file cabinet in a locked office.

IRB Application and Study Implementation

IRB application approval from the Research Departments of SFUSD and CSU-Fresno (CSUF) was obtained. The final CSU IRB approval (see Appendix D) was given on January 9, 2020 while the approval from SFUSD (see Appendix E) was received on January 17, 2020.

Information session and distribution of parental consents

Collaborating teachers were met with individually by the principal investigator to schedule the information session and distribution of parental consents to the CAC and AVID classes. The information session and distribution happened over several days in consideration with the collaborating teachers' instructional time and the scheduled school holidays. One hundred and ninety (190) parental consents were distributed during the week-long information sessions. Only one (1) was returned to exclude a student from participating. For students who were absent on the days the classes were visited by the researcher, the collaborating teachers provided the information and delivered the parental consents the following day.

Assents of participants and implementation of study

The study participants were recruited 14 days after the parental consents were delivered. The study participants' assents were sought after a brief review of the study details. A total of 151 minor assents were collected and the pre-intervention assessment or survey was distributed to them. The pre-surveys were completed over 20 to 25 minutes. After the collection of the completed pre-surveys, the first module of the NTHCS© curriculum was presented to the participating classes.

Data Analysis

Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 25 and Microsoft Excel. Descriptive and inferential statistics were to analyze data from pre and post-test assessments. Descriptive statistics was used to measure central tendencies and variability of data. Measures of central tendency included mean and median while measures of variability included standard deviation, mean deviation, variance, range, and percentile. In addition, inferential statistics like t-test and analysis of variance (ANOVA) was used. The statistical significance level for pre- and post-test assessments will be set at 0.05 ($p < 0.05$). CSU-Fresno's Graduate Statistics Studio staff members was consulted as needed during data analysis for appropriateness of statistical tools being used.

CHAPTER 4: RESULTS

Research Process

The NTHCS© curriculum's four modules were presented by the researcher using each of the modules' corresponding MS PowerPoint presentation slides and resources. The researcher gave the pre-intervention surveys before the first module was presented while the post-intervention survey was collected immediately after the last module was presented in each collaborating classes.

The collaborating classroom teachers or their designees were present during the intervention sessions to provide classroom management support. The support focused on keeping the participants on task and the regulation of cell-phone use during the sessions. There were two interruptions during the implementation of the intervention. One module presentation was briefly interrupted by an urgent call which required the attention and time of the researcher away from the classroom during the presentation of a module. This lasted for approximately 10 minutes. The other module presentation interruption was a result of a school-wide fire alarm which was resolved after 15 minutes. Neither interruption required the whole session to be re-scheduled.

The implementation of the 4- module NTHCS© health literacy intervention varied according to the availability of the collaborating classroom teachers' instructional time. Schedules were initially set to reflect the completion of the intervention by March 10, 2020. However, the completion of the health literacy intervention (NTHCS© curriculum) did not happen until March 12, 2020.

Assessment/Survey Results

The pre-intervention and post-intervention assessment/survey results were used to describe the characteristics of the participants and evaluate the result of the

intervention. A total of 151 participants filled out the pre-intervention survey/test while a total of 121 participants completed the post-intervention survey/test. Due to the vulnerability and age of the participants, no data other than their self-reported age, sex/gender, and grade was collected in the pre-survey and post-survey forms. The number of completed pre-survey and post-survey forms are unequal; $n=151$ and $n=121$, respectively with a difference of 30 surveys between them. This difference in the pre- and post-survey forms is due to absences of participants during the last presentations as well as to the voluntary nature of the study. Using IBM's SPSS 25, the pre- and post-survey results were analyzed using descriptive statistics and one-way ANOVA. The results are reflected in the following sections, starting with participant characteristics:

Sex/Gender. Based on the 151 pre-surveys/tests collected in the eight participating classes, 51% (77) of the participants are male while 34% (52) are female while 15% (22) of them did not disclose their sex or gender. However, the 121 post-survey/tests showed similar results that reflected more male participants (57% or 69) completed the post-survey than females (41% or 49) while two percent (3) did not disclose their sex or gender. The participants' non-disclosure of their sex or gender could be related to being given the choice to self-report or to forgetfulness (see Figure 1).

Figure 1. Sex/Gender Distribution between Pre-and Post-Survey

Age. Thirty-five percent (53) of the 151 pre-survey participants are 16-year-olds (35% or 53) followed by 17-year-olds (21% or 31), by 15-year-olds (14% or 21), and by 14-year-olds (9% or 14). Only 3% (5) of the pre-survey participants are 18-year-olds while the remaining 18 % (27) did not disclose their age.

Comparing these results to the post-survey participants, a similar pattern is reflected; 16-year-olds (38% or 46) led the number followed by 17-year-olds (26 % or 31). However, this is followed by the 14-year-olds (16% or 19) then by the 15-year-olds (11% or 13) instead, and finally, by 18-year-olds (6% or 8). Three percent (3% or 4) of the post-survey participants did not disclose their age. This non-disclosure could be due to being given the choice to self-disclose or to forgetfulness (see Figure 2).

Figure 2. Age Distribution between Pre-and Post-Survey

Grade. With regards to the participants' grade level, close to half (48% or 73) of the pre-survey participants are in juniors (11th graders) followed by freshmen or 9th graders (21% or 32). The sophomores or 10th graders (15% or 22) and seniors or 12th graders (14% or 21) followed. The remaining two percent (2% or 3) did not disclose their grade level. As with the pre-survey participants, half of the post-survey participants are 11th graders (51.2% or 62) followed by the 9th graders (22.3% or 27). The 12th graders (17.4% or 21) came in next followed by the 10th graders (9.1% or 11) (see Figure 3).

Figure 3. Grade Level Distribution between Pre-and Post-Survey

Pre- and Post-Intervention Assessment/Surveys

Minimum and maximum score. The highest pre-intervention/survey score among 151 participants is 16. This is the same in the 121 post-intervention/survey participants. On the other hand, the minimum pre-survey score of 3 is 1 point lower than the post-survey's minimum score of 4.

Mean score. The mean score of the 151 pre-survey participants is 10.7 while the mean score of the 121 post-survey participants is 12.2 The mean score

received by the participants who completed the pre-survey are lower than those who completed the post-survey by at least 2 points. The distribution of the mean score by age, gender and grade in both groups are displayed in Table 1.

Table 1

Pre-and Post- Survey Mean Score by Age, Sex/Gender, and Grade Level

Variables	Pre-survey		Post-survey	
Category	Mean	Number	Mean	Number
AGE				
Unknown	9.51	27	9.50	4
14-year-old	10.57	14	11.00	19
15-year-old	9.09	21	11.23	13
16-year-old	11.55	53	13.32	46
17-year-old	11.74	31	12.35	31
18-year-old	9.00	5	11.00	8
Total	10.70	151	12.20	121
SEX/GENDER				
Unknown	9.45	22	9.00	3
Female	10.75	52	12.57	49
Male	11.04	77	12.08	69
Total	10.70	151	12.20	121
GRADE LEVEL				
Grade 9	9.12	32	11.07	27
Grade 10	10.18	22	12.27	11
Grade 11	11.37	73	12.58	62
Grade 12	11.33	21	12.52	21
Grade	11.00	3		
Unknown				
Total	10.70	151	12.20	121

Mean by Age. The mean score post-intervention is higher in all age groups compared to the pre-intervention except for the group whose ages were unknown where the mean is similar. The similarity in mean score of participants whose ages were unknown in both pre-and post-survey is because the means is weighted to

compensate for the difference in the number of pre-and post-survey participants. Since there is a difference of 30 participants between the pre-and post-survey, the same number of cases or data was excluded in the calculation of the means.

Mean by Sex/Gender. The mean score post-survey or intervention is higher by at least 1 point in all sex/gender groups compared to the pre-intervention except for the group whose age is unknown where the mean is 0.45 points higher in the pre-survey compared to the post-intervention survey.

Mean by Grade. The mean score post-survey or intervention is higher by at least 1 to 2 points in all grades compared to the pre-intervention. In contrast to the post-survey group, the pre-survey group has three (3) participants who did not disclose their grade level.

One-way ANOVA

One-way ANOVA is used to find out if age, sex/gender, and grade affects the pre-survey and post-survey scores. The p value is set at 0.05. Using SPSS 25, the following are the results:

Pre-survey Score by age, sex/gender, and grade. The significance levels of age, sex/gender, and grade level as factors affecting the pre-survey score are .000, .035, and .000 respectively. These values are lower than the p-value of .05 which mean that the age, sex/gender, and grade level of participants influenced the pre-survey score (See Table 2).

Table 2

<i>Pre-survey Score by Age, Sex/Gender, and Grade Level</i>					
	Sum of Squares	df	Mean Square	F	Sig.
Pre-survey Score and Age					
Between Groups	178.132	5	35.626	6.481	.000
Within Groups	797.046	145	5.497		
Total	975.179	150			
Pre-survey Score and Sex/Gender					
Between Groups	43.091	2	21.546	3.421	.035
Within Groups	932.088	148	6.298		
Total	975.179	150			
Pre-survey Score and Grade					
Between Groups	126.726	4	31.681	5.452	.000
Within Groups	848.453	146	5.811		
Total	975.179	150			

Post-survey Score by age, sex/gender, and grade level. The significance level of age being a factor affecting the post-survey score is .003. This is lower than the p-value of .05 which means that age influenced the post-survey scores of participants. This result is in contrast to the significance levels of sex/gender and grade as factors affecting the post-survey score which are higher than the set p-value; .097 and .136, respectively. Sex/gender and grade level did not influence the post-survey score (See Table 3).

Table 3

<i>Post-survey Score by Age, Sex/Gender, and Grade Level</i>					
	Sum of Squares	df	Mean Square	F	Sig.
Post-survey Score and Age					
Between Groups	139.322	5	27.864	3.776	.003
Within Groups	848.513	115	7.378		
Total	987.835	120			
Post-survey Score and Sex/Gender					
Between Groups	38.356	2	19.178	2.383	.097
Within Groups	949.478	118	8.046		
Total	987.835	120			
Post-survey Score and Grade Level					
Between Groups	45.466	3	15.155	1.882	.136
Within Groups	942.369	117	8.054		
Total	987.835	120			

The influence of age, sex/gender, and grade level differs in the survey scores. The age of participants is found to be consistent in affecting both the pre- and post-survey scores. However, the sex/gender and grade level of participants are not found to be consistent in affecting the survey scores.

Survey Questionnaire

The survey forms have 17 items that evaluated the participants' knowledge and skills on using the US health care system before and after the implementation

of the NTHCS© health literacy intervention. The results are reflected below (see Table 4):

Table 4

Pre- and Post-survey Percentage of Correct Responses by Item/ Category

Item/Category	Pre-survey (N=151)	Post-survey (N=121)	Change in %
1. Health literacy	27% (41)	28% (34)	1
2. Self-advocacy	93% (140)	91% (110)	-2
3. Health Care Rights of Minors	71% (107)	75% (91)	4
4. Minor Consent and Confidentiality	72% (109)	81% (98)	9
5. Accessing health care service	30% (45)	45% (55)	15
6. Personal Health History	84% (127)	95% (115)	11
7. Symptoms and Diagnosis	80% (121)	80% (97)	0
8. Emergency Contact	73% (111)	81% (98)	8
9. Family Health History	85% (129)	86% (104)	1
10. Medication Use	66% (99)	65% (78)	-1
11. Health Insurance Types	79% (119)	82% (99)	3
12. OTC (Over the counter) Drugs	46% (69)	66% (80)	20
13. Prescription Drugs	85% (128)	88% (106)	3
14. Primary Care Doctors/Providers	11% (17)	26% (31)	15
15. Vaccines	84% (127)	84% (102)	0
16. Health Insurance Coverage (Age)	25% (38)	54% (65)	29
17. Health Insurance Coverage (Employment)	87% (132)	88% (106)	1

Note: Red- negative change; Green- no change; Blue- change < or equal to 5%; Purple- change < or equal to 10%; Black- change equal 11 or > 15%

Based on the results reflected on Table 4, there are 10 out of the 17 items in the survey form that showed either a decrease or a minimal increase in the knowledge and skills of participants after the health literacy intervention. The participants' understanding of self-advocacy and medication use decreased by 2% and 1%, respectively while their understanding of diagnosis and vaccines did not change after the health literacy intervention. The remaining six of the 10 items showed minimal increase of less than 5% in the participants' understanding of self-advocacy during a doctor's appointment (4%), health insurance (3%), and compliance with medication (3%).

The remaining seven out of the 17 items showed considerable increase in the participants' knowledge and skills after the health literacy intervention. These items are related to the participants' knowledge and skills related to emergency contact choice (8%), minor consent (9%), self-advocacy (11%), accessing appropriate medical care (15%), types of health care providers (15%), medication types (20%), and health insurance (29%).

Participants' Feedback on NTHCS© Curriculum. The post-survey questionnaire also asked the 121 participants to provide feedback on the usefulness and appropriateness of the health literacy intervention as well as its resources (see Figure 4). The participants indicated whether they strongly agree, agree, disagree or strongly disagree with the following statements:

- a. I think this lesson in health care was helpful.
- b. I think this lesson presented was too confusing for kids my age.
- c. I think other students my age should learn the information I learned this week.
- d. At my next doctor's appointment, I will know what to do better than I did before this lesson.

e. I think the following things were helpful in learning this material:

1. Student Workbook
2. PowerPoint Presentations
3. Activities
4. Videos

Figure 4. Post-survey Participants' Feedback on the NTHCS© curriculum and its resources.

The vast majority or 96% (116) collectively agreed (87) and strongly agreed (27) that the lesson/ health intervention to be helpful compared to five (5) who either disagreed or strongly disagreed. In addition, close to 79% (95) of the participants disagreed (71 or 59%) or strongly disagreed (24 or 20%) that the health intervention was too confusing for kids their age while the rest (21%) either agreed (19 or 15%) or strongly agreed (7 or 6%). Eighty-eight (88% or 107) of the participants either agreed (70 or 58%) or strongly agreed (37 or 30%) that their peers should learn the information that they learned while 11% (14) either disagreed or strongly disagreed. Among the 121 post-survey participants, close to ninety percent (89% or 108) either agreed (80 or 66%) or strongly agreed (28 or

23%) that at their next doctor's appointment, they will know what to do better than they did before this lesson while the rest (13 or 11%) either disagreed (8 or 7%) or strongly disagreed (5 or 4%).

With regards to the resources used in the providing the health intervention, 61% (74) of the post- survey participants either agreed (50% or 60) or strongly agreed (11% or 14) to the usefulness of the student workbook while 39% either disagreed (32% or 38) or strongly disagreed (7% or 9). One-hundred twelve (112 or 93%) of the post- survey participants collectively agreed (93 or 77%) and strongly agreed (19 or 15%) that the PowerPoint presentation was helpful while seven percent (7% or 9) either disagreed or strongly disagreed. More than half of the participants also found the activities and videos to be helpful with 69% (84) and 80% (97) either agreed or strongly agreed, respectively. In contrast, 31% (37) and 24 (20%) respectively, either disagreed or strongly disagreed that the activities and videos used were helpful.

CHAPTER 5: CONCLUSION

Explanation of Results

Pilot testing a curriculum, or any program will help determine the course of action regarding the full implementation of the curriculum or program. According to a guide made for the grantees of the Office of Adolescent Health and Administration on Children, Youth and Families by one of the U. S. Department of Health and Human Services' contractors (n.d.), pilot testing provides feedback on resources, readiness of the staff, and appropriateness or fit of the curriculum/program to the target population. Pilot testing also offers a glimpse of how successful the curriculum or program will be when implemented fully. Results of this study are compared to the study by Hughes and Maiden (2018) which validated the NTHCS© curriculum for high school-aged adolescents.

Assessment Scores

Further examination of the pre-and post-intervention assessment/survey scores showed that there is an increase of at least .5 to 2 points in the mean scores by age, sex/gender, and grade level after the health literacy intervention. These increases are noteworthy. The changes in the mean scores could be attributed to the delivery of the health intervention. It could be inferred that the health intervention slightly increased the health literacy level of the participants. However, the change in survey scores which ranged from 0.5 to 2 points despite being notable is not substantial when compared to the results of the study by Hughes and Maiden (2018) which showed 1.73 to 4.08 points increase in post-survey mean scores. This is because these results could not be proven to be significant as pre- and post-test scores could not be paired. Moreover, this difference could be related to the greater number of participants (N=948) and

teachers involved in the study by Hughes and Maiden (2018). The mean score; 10.7, of pre-survey participants is comparable to the overall pre-survey mean score of 10.88 in the study by Hughes and Maiden (2018) which validated the NTHCS© curriculum. However, the post-survey mean score of 12.2 is 1.79 points lower than the overall mean score of 13.99 reflected in the study by Hughes and Maiden (2018). The difference could be attributed to the huge difference in the number of samples between this pilot study and that of Hughes and Maiden (2018); 121 compared to 948, respectively.

The pre-intervention survey score was affected or influenced by age, sex/gender, and grade level. However, this was not seen with the post-intervention survey score. The post-intervention survey score was influenced by age only. This could be attributed to the level of maturation or neurodevelopment associated with age. A study by Navarro, Garcia-Rubio, and Olivares (2015) concluded in their study that age can be used to explain the level or quality of academic performance. This phenomenon is called relative age effect (RAE). The effect of age on academic performance or on learning changes with time spent in school such that RAE decreases as more time is spent on learning.

Significance of the Study

The study answered the research question, “In high school-aged adolescents, how effective is the curriculum, “Navigating the Health Care System” (NTHCS©) in improving health literacy after intervention?” Based on the results, the NTHCS© curriculum is effective in improving the health literacy of high school-aged adolescents.

The increase in the mean scores after the health literacy intervention suggests that the adoption of the NTHCS© curriculum by schools or school

districts that cater to the educational needs of high school-aged adolescents could be beneficial in improving the health literacy of said population. Any educational program that promotes youth development like health education, college and career or a leadership class could use NTHCS© curriculum. There could be a substantial increase in the post-intervention score if the curriculum is delivered by a regular classroom teacher who had already established rapport and a working relationship with the learners. However, the researcher also held the belief that school district nurses could produce the same result as seasoned classroom teachers through the use the NTHCS© curriculum in improving the health literacy of adolescents, especially those with chronic health conditions. The implementation of the curriculum by school nurses could be in a form of a health club or a support group; a health club for those without health conditions and a support group for those suffering from a chronic health condition. A study by Jordan, Diederichs, Dollmann, and Neuhauser (2017) found social support as an important factor that affects health literacy and general health.

Based on the feedback provided by the post-survey participants, majority of them found the health intervention to be useful and easy to understand. The majority of the post-survey participants also indicated that their peers could benefit from the same health intervention. They also self-reported that at their next doctor's appointment, they will know what to do better as a result of the health intervention.

Limitations of the Study

Despite giving their assents to participate in the study, the participants did not have enough motivation to be engaged in and to learn the material presented despite receiving the information on the importance of health literacy at the

beginning of the curriculum. The researcher provided multiple prompts and re-directions to keep the participants from using their cellphones while the presentation was on-going. The collaborating teachers or their designees provided re-enforcement as necessary. However, they also had a hard time “policing” cellphone use in their classroom. When an activity called for the participants to use their cellphones, they were visibly engaged in the activity. Future implementers of the NTHCS© curriculum need to modify the activities to incorporate more use of hand-held technology to better engage adolescents in learning.

The lack of familiarity between the study participants and the researcher limits the effectivity of the health intervention. This is because the participants view the lesson as an optional activity that they need to pay attention. Because the health intervention is not part of the participants’ regular curriculum which they are expected to be graded, the motivation to learn the health intervention or material is lessened. This could have contributed to the unsubstantial change between the pre- and post-survey scores.

The timing of the completion of pre-and post-intervention surveys also limits the study. This is because the pre- and post-surveys were completed immediately before the first and last module was presented respectively. The pre-survey was implemented immediately after the participants’ assents were solicited and before the first module was presented. There was not enough time for the participants to get used to the idea of answering the pre-survey. The same with the post-survey as it was immediately done after the last module was completed. There was no time for the participants to review what they learned.

Another limitation of the study is the use of the NTHCS© curriculum’s pre- and post-survey in measuring the health literacy of participants. Although the

NTHCS© curriculum has been validated by Hughes and Maiden (2018), its pre-/post-survey is not widely accepted as a measurement of adolescent health literacy. The pre-/post-survey did not come with have a clear scale of what score or range of scores represents low, moderate or high health literacy level.

Conclusion

Schools are important venues for providing health information and because these are where school-aged children and adolescents spend most of their time, schools can influence the health literacy of their students through the curricula they provide (Kilgour, Matthews, Christian, & Shire, 2015). The NTHCS© curriculum is one of these curricula that has the potential to improve the health literacy of adolescents. When integrated in the school's educational curricula, the NTHCS© curriculum's effectiveness could be enhanced. Kilgour, Matthews, Christian, and Shire (2015) found that adolescents recognize health messages embedded in classes like physical education and biology that they consider influencing health and well-being. So, the adoption of NTHCS© curriculum into a school's health education or school health program and being delivered by any educator; a regular classroom teacher, a school nurse or a health tutor, who has established rapport with the adolescent learners will help improve adolescents' health literacy.

To engage the adolescent learners, incorporating the use of a medium that they are most familiar with such as hand-held or digital technology will go a long way. This is because the use of technology by adolescents either for personal or academic use in schools are highly noticeable and teaching them to use technology for disease prevention and health promotion will empower them to use it appropriately (To-Miles & Shaw, 2012). Mills (2010) suggested that the youth's

digital literacy maybe limited to communicating with peers. So, using technology in teaching adolescents will broaden the adolescents' digital literacy by increasing their ability to use health-related digital applications.

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APPENDICES

APPENDIX A: PARTICIPANT ASSENT FORM

**NTHCS® Health Literacy Intervention Pilot Study
Participant Assent Form**

Dear Participant,

You are invited to participate in a study conducted by Genevieve Evenhouse, a student of the California State University (CSU) Northern California Consortium Doctor of Nursing Practice and an employee of the San Francisco Unified School District (SFUSD). We hope to learn the answer to this research question: "in high school aged-adolescents, will the Navigating the Health Care System (NTHCS) ® curriculum change the health literacy level of study participants after receiving the intervention?". You were selected as a possible participant in this study because you enrolled in either AVID or college and career classes.

Health literacy is one's ability to use the services of health care providers like doctors, nurse practitioners, dentists, and others in clinics or hospitals correctly and timely in order to be healthy or handle one's health issues better. This includes knowing one's medicines and the reasons of taking them.

In participating, you may be asked to identify your doctor or the clinic you go to. You may be also asked what you understand about health insurance, illnesses in family, medicines, vaccines or shots, doctor or clinic appointments, and other things needed to get help from a health care provider.

If you decide to participate, we will assess your health literacy by answering a *confidential* pre-survey (pre-intervention evaluation) before you will receive the NTHCS® curriculum. Then you will receive the NTHCS® curriculum in four (4) presentations in your classes. The NTHCS® curriculum focuses on how to access and use the healthcare system of the United States. Each presentation will be done once a week for four (4) weeks and each presentation will last between 45 to 90 minutes. After the fourth and last presentation, you be asked to answer a *confidential* post-survey (post-intervention evaluation). During the presentations, you might experience what you normally experience when learning like feeling overwhelmed and frustrated if the material or topic being presented is not understood and negative feelings related with the learning process or material presented maybe triggered. You might find that you like learning about the contents of the NTHCS® curriculum. We cannot guarantee, however that you will receive any benefits from this study.

If you decide not to participate, you can choose to stay during the presentations without participating or your teacher will give you an alternative activity to work on. No student names, birthdates, and other information that could be used to identify you are collected during this study. However, if any information that is obtained in connection with this study can be identified with you, it will remain confidential and will be disclosed only with your permission or as required by law.

Your decision whether or not to participate will not affect your future *applications or contacts* with CSU Northern California Consortium (CSU-Fresno and San Jose State University) and SFUSD. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. The Committee for the Protection of Human Subjects at California State University, Fresno has reviewed and approved the present research.

If you have any questions, please ask us. If you have any additional questions later, Genevieve Evenhouse (415-448-7409) will be happy to answer them. Questions regarding the rights of research subjects may be directed to *Dr. Jennifer Randles, Chair, CSU Fresno Committee on the Protection of Human Subjects, (559) 278-5146 or jrandles@csufresno.edu.*

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE.

I agree to participate in this study.

Participant Signature and Date

APPENDIX B: PARENT CONSENT FORM

**NTHCS® Health Literacy Intervention Pilot Study
Parent Consent Form**

Dear Parent/Guardian,

Your child is invited to participate in a study conducted by Genevieve Evenhouse, a student of the California State University (CSU) Northern California Consortium Doctor of Nursing Practice and an employee of the San Francisco Unified School District (SFUSD). We hope to learn the answer to this research question: "in high school aged-adolescents, will the Navigating the Health Care System (NTHCS)® curriculum change the health literacy level of study participants after receiving the intervention?". Your child was selected as a possible participant in this study because your child is enrolled in either AVID or college and career classes.

Health literacy is one's ability to use the services of health care providers like doctors, nurse practitioners, dentists, and others in clinics or hospitals correctly and timely in order to be healthy or handle one's health issues better. This includes knowing one's medicines and the reasons of taking them.

In participating, your child may be asked to identify your child's doctor or the clinic you take your child to. Your child may be also asked about what your child understands about health insurance, illnesses in family, medicines, vaccines or shots, doctor or clinic appointments, and other things needed to get help from a health care provider.

If you decide to allow your child to participate, we will assess your child's health literacy by answering a *confidential* pre-survey (pre-intervention evaluation) before your child will receive the NTHCS® curriculum. Then your child will receive the NTHCS® curriculum in four (4) presentations or classes. The NTHCS® curriculum focuses on how to access and use the healthcare system of the United States. Each presentation will be done once a week for four (4 weeks) and each presentation will last between 45 to 90 minutes. After the fourth and last presentation, your child will be asked to answer a *confidential* post-survey (post-intervention evaluation). During the presentations, your child might experience what your child normally experiences when learning like feeling overwhelmed and frustrated if the material or topic being presented is not understood and negative feelings related with the learning process or material presented maybe triggered. Your child might like learning about the contents of the NTHCS® curriculum. We cannot guarantee, however that your child will receive any benefits from this study.

If you decide not to allow your child to participate, your child can choose to stay during the presentations without participating or your child's teacher will give your child an alternative activity to work on.

No student names, birthdates, and other information that could be used to identify your child are collected during this study. However, if any information that is obtained in connection with this study can be identified with you, it will remain confidential and will be disclosed only with your permission or as required by law.

Your decision whether or not to participate will not affect your child's future *applications or contacts* with CSU Northern California Consortium (CSU-Fresno and San Jose State University) and SFUSD. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. The Committee for the Protection of Human Subjects at California State University, Fresno has reviewed and approved the present research.

If you have any questions, please ask us. If you have any additional questions later, Genevieve Evenhouse (415-448-7409) will be happy to answer them. Questions regarding the rights of research subjects may be directed to *Dr. Jennifer Randles, Chair, CSU Fresno Committee on the Protection of Human Subjects, (559) 278-5146 or jrandles@csufresno.edu.*

YOU ARE MAKING A DECISION WHETHER OR NOT TO ALLOW YOUR CHILD TO PARTICIPATE. RETURN THIS FORM AND SIGN IT IF YOU DO NOT ALLOW YOUR CHILD TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE.

I do not consent to my child participating in this study.

Parent/Guardian Signature and Date

APPENDIX C: PERMISSION TO USE NTHCS© CURRICULUM

Genevieve Evenhouse <gevenhouse@mail.fresnostate.edu>

Health Literacy

2 messages

Evenhouse, Genevieve <evenhouseg@sfusd.edu>
 To: kate.blackburn@nemours.org
 Cc: gevenhouse@mail.fresnostate.edu

Wed, Jan 16, 2019 at 11:51 AM

Hello, Ms. Blackburn!

I am a doctoral student at California State University (CSU), Northern Consortium Doctor of Nursing Practice, a collaboration between CSU Fresno and San Jose State University. Also, I am currently working as a school district nurse with San Francisco Unified School District.

I would like to use Navigating the Health Care System modules for my doctoral project. The modules will be used as teaching intervention in improving health literacy for high school-aged adolescents.

Please let me know if I need to do anything to be able to use the modules. Looking forward to hearing from you soon.

Thank you.

Peace,

Genevieve

Genevieve Evenhouse, RN, SNC, MSN, WHNP-BC
 School District Nurse/Tobacco Use Education Liaison
 Abraham Lincoln High School-San Francisco Unified School District
 2162 24th Ave., Rm 126 D, SF, CA 94116
 (415)759-2700 EXT 3175 Fax (415)566-2224
 Wellness Center:415.242.2584
 Direct line through TEXT: 415-448-7409 (Google voice number; during school hours)

Blackburn, Kathleen B. <Kate.Blackburn@nemours.org>

Wed, Jan 16, 2019 at 12:09 PM

To: "Evenhouse, Genevieve" <evenhouseg@sfusd.edu>
 Cc: "gevenhouse@mail.fresnostate.edu" <gevenhouse@mail.fresnostate.edu>, NTHCS <NTHCS@nemours.org>

Hi Genevieve,

Thanks for your message and your interest in our adolescent health literacy curriculum.

You can access overview information about the program at this link: <https://www.movinghealthcareupstream.org/navigating-the-health-care-system/>

You can download and review / use all of the materials at this link: <https://www.movinghealthcareupstream.org/sign-in-or-register/> (Screen shots are attached to guide you through the process, in case you need them.) I suggest that you start by downloading our Facilitator's Guide. It's currently in draft form for field testing, so it's not pretty and formatted professionally, but it is a useful dashboard for reviewing the content and activities in each module.

Please reach out if you have questions. The NTHCS team is always happy to help our users! ☺

Warmly,

Kate

Kate Burke Blackburn

Manager of Practice & Prevention

National Office of Policy & Prevention

Nemours Children's Health System