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Feasibility Trial Intervention "Let's Move Away From Screen"

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Dedication

This project is dedicated to children, adolescents, and their parents as a guide for healthy lifestyles. Also, for my children Eduard and Ilona, who inspired me to address the issue of excessive screen time and continue working on pediatric primary prevention.

Acknowledgments

This project would not have been possible without help from others. I would like to express sincere appreciation to Dr. Rossman, my organizational representative. Dr. Rossman consistently role modeled the skills to be an excellent nurse practitioner, preceptor, educator, and professor. Dr. Rossman continuously supported me in this long journey by demonstrating exemplary skills. The accomplishment of this project would not be possible without support of my chair Dr. Bostrom. I appreciate her belief in my capability to accomplish this project. She coached me by making me work to the fullest potential and made me a stronger person and clinician. My co-chair, Dr. Coviak, helped me to finalize my proposal and made my project feasible for implementation. In addition, Dr. Coviak was supportive throughout graduate school—she supervised my graduate assistant work and also was there to listen to me when I struggled. Dr. Schafer, my first chair, who retired early, offered me transition support which made me want to continue and not to give up but accomplish the project. I am especially thankful to my children, Eduard and Ilona, who were patient with me throughout these seemingly endless five years of graduate school.

Abstract

"Let's Move Away From Screen" was a six-week quality improvement project implemented in one of West Michigan's after school programs among students attending 6th and 7th grades. The purpose was to implement physical activity and health education (nutrition, physical activity, and recreational screen time) with major intentions to (a) establish healthy lifestyles and decrease recreational screen time in the after school program and (b) evaluate the project's acceptability and sustainability by students, parents, volunteers, and the organization. The project's need was driven by the health needs assessment conducted in February 2016 by the school's health center. One of the biggest concerns identified was that 34% of students attending 4th and 5th grade in the identified public school at the time of the survey (and who entered 6th and 7th grades during 2017-2018 academic year) reported spending on average three and more hours per day on recreational screen time. The American Academy of Pediatrics recommends to limit recreational screen time use for children of school age and younger to no more than two hours per day. The literature review findings identified a multicomponent approach (nutrition, physical activity, and screen time) that addresses information to both parents and children to be the most effective when targeting a reduction in screen time. This project was based on a multicomponent evidence-based intervention called "Let's Go." The primary outcome of the project was students' healthy lifestyles (nutrition, physical activity, and screen time). The secondary outcome was to determine the project's acceptability and sustainability by students, parents, and the after school program's staff. "Let's Move Away From Screen" was successfully implemented in the after school program.

Keywords: screen time, video games, children, healthy nutrition, exercise, physical activity

Executive Summary

The American Academy of Pediatrics (AAP) identified the issue of excessive recreational screen time among children of different ages as becoming a public concern expressed by government, teachers, parents, pediatricians, and other stakeholders (AAP, 2001). Despite AAP (2001) recommendations to limit recreational screen time use to no more than 2 hours per day, 8 to 18-year-olds in the United States spent approximately 7.5 hours of screen time per day in 2013 alone (Wethington, Pan, & Sherry, 2013). The American College of Pediatricians (ACP) analyzed evidence and concluded that the media use of children and adolescents has greatly increased in the past 5-10 years (ACP, 2016). One of the studies found that an average 18-year-old American spent approximately 40 hours each week accessing the internet alone. On a typical day, 8 to 18-year-olds spent approximately 4.39 hours viewing television, 2.31 hours listening to music, 1.29 hours using computers, and 1.13 hours playing video games (AAP, 2016).

As a response to the significance of the issue of increasing screen time (ST) use among children and adolescents and in light of the fast-changing landscape of children's media use and available technologies, AAP updated current recommendations in October 2016. In addition to the previous recommendation to limit children's screen time use to no more than two hours per day, AAP recommends adjusting screen time use with the child's age and type of content children should be watching (AAP, 2016). Along with their recommendations, AAP believed that excessive screen time should be replaced by other activities such as light, moderate, and vigorous physical activity. Programs that target obesity through healthy nutrition and an increase in physical activity (PA) have the potential to decrease ST. Based on the presented literature review and AAP recommendations, interventions directed on ST reduction were the most

effective when carried out through a multicomponent approach and implemented in a community setting such as schools and after school programs. One of the multi-component interventions presented in this literature review, "Let's Go," was chosen to guide the project because of its documented effectiveness and low cost.

The participating school-based health center operates on a grant and is state funded. As a part of the grant requirement, the school-based health center is obligated to conduct a health care needs assessment among its students in each grade every two years and implement an evidence-based intervention to improve the identified needs (K. Palivoda, personal communication, February 27, 2016). The health needs assessment conducted by the school-based health center in February 2016 revealed the highest need for interventions targeting excessive ST (more than two hours per day), bullying, safety during recreational activities (not wearing a helmet during recreational activities and unstable emotional wellbeing such as stress and/or sadness). The "Let's Move Away From Screen" project was aimed to address part of the health needs identified by this assessment conducted in February 2016, particularly screen time. The project also fulfills the grant requirement for the school-based health center. The purpose of "Let's Move Away From Screen" project was to implement physical activity and health education (nutrition, physical activity, and recreational screen time) with a major intention to decrease recreational screen time in the after school program and to evaluate the project's acceptability and sustainability by students, parents, volunteers, and the organization.

Most students reported small positive changes: an increase in physical activity level of 15 -30 minutes, unchanged screen time (several students reported 15-30 minutes ST decrease and there were several who reported reduced screen time use from >120 to less than two hours), consumption of sugary drinks that was unchanged during pre and post survey, and an increase

from one to at least three daily servings of fruits and vegetables per day. Based on interviews conducted by the Doctor of Nursing Practice (DNP) student “Let’s Move Away From Screen” was fairly well accepted by students, parents, volunteers, and the organization.

Introduction and Background

Screen time (ST) is a relatively new phenomenon, which continues to attract concern and focus among healthcare professionals. Screen time collectively defines activities involving screen use such as watching television, computer use, playing video games, using smart phones for purposes other than calls, tablet use, and use of other innovative devices (American Academy of Pediatrics [AAP], 2011). There are pros and cons for screen time use among children and adolescents.

The potential benefits of electronic devices/technologies in education were identified by Clarke and Svanaes (2014): communication and collaboration between teachers and students, opportunities for independent and more personalized learning, portable "anytime anywhere learning," and reduced printing with the associated cost savings (Clarke & Svanaes, 2014). Portable electronic devices such as tablets are also found to be beneficial among special needs students, for example, children with attention deficit hyperactivity disorder (Clarke & Svanaes, 2014).

The cons of the excessive screen time are rooted in health issues, both medical and mental health. Screen time, if in excess regardless of type of activity, can create health, behavioral, and mental health issues among children. Specifically, playing video games has been linked to distractibility, over-arousal, hostility, and aggression (Rosen et al., 2014). Although these technologies can be beneficial for children in the form of learning aids, excessive ST negatively affects children's physical health in the following ways: increases sedentary lifestyle, irregular sleep, eating disorders, depression, stress, anxiety, and exposure to bullying, cyber-bullying, violence and aggression (AAP, 2016). Excessive ST leads to poor health outcomes and

decreases overall health of children. Time spent in front of a screen is associated with a number of negative health behaviors and outcomes among children, such as: overweight, irregular sleep, insufficient consumption of fruits and vegetables, eating disorders, less time spent on homework or engaging in creative play, decreased physical activity, feeling sadness and boredom, mental health issues such as depression and anxiety, and exposure to violence and aggression (Maniccia, Davison, Marshall, Manganello, & Dennison, 2014; Rosen et al., 2014). Screen time predicted increased loneliness, depression, withdrawal anxiety, attention problems, and aggression (Martin, 2011). Excessive ST, particularly internet activity and video gaming, predicted more sadness, suicidal ideation and suicide planning among American adolescents (Messias, Castro, Saini, Usman, & Peeples, 2011).

It is possible that adolescents who spend extra time using technologies will sleep less and be less active. Steele (2012) hypothesized that excessive ST in adolescents was related to insufficient sleep, decreased physical activity (PA), overweight/obesity, and daytime sleepiness. One of the primary aims of this study was to determine the relationship between recreational ST and daytime sleepiness. The relationships among sleep debt, sleepiness, screen time, physical activity, and weight status in 110 adolescents were examined in the study. The results of the study indicated that daytime sleepiness predicted self-reported PA levels ($p < .05$) but was not significantly related to ST use or weight status. Children who were > 85^{th} percentile (overweight/obese) engaged in significantly fewer hours of physical activity ($p < .05$) and more ST ($p < .01$) than participants with a BMI at the 85^{th} percentile (Steele, 2012).

Because pediatric providers started to express their concerns about children's ST, the AAP issued their first guidelines for ST use in their 1999 policy statement for children two years and older (AAP, 2001). The AAP defined ST use of more than two hours per day as excessive ST. The AAP recommended to limit ST use among youth over two years of age to no more than two hours each day and that parents not place television sets in a child's bedroom (AAP, 2001). As a response to escalation of the significance of this issue and in light of the fast-changing landscape of children's media use and available technologies, AAP updated ST guidelines in October 2016 (Scalize, 2016). In addition to the previous recommendations to limit ST spent by children per day to no more than two hours, AAP recommends adjusting ST use and its content with the child's age. Screen time should be replaced by other activities from moderate physical activity such as walking or cleaning their rooms to vigorous activities such as organized as sports (Scalize, 2016). The AAP encourages children to turn off the TV and get up and play. They recommend for every half an hour spent watching TV or playing a video game the child should match it with a half hour of active play (AAP, 2015).

The issue of excessive ST among young children does not go away, but has been escalating with time. The ST use is likely increasing due to the availability and affordability of portable electronic devices such as phones, tablets, ipods, and laptops. A decade ago, parents had to worry about a child's access to a few electronic devices such as a computer, TV, and several types of gaming devices. Excessive ST use among children is pandemic. The trend of excessive ST use among children is fairly consistent among developed countries and is relevant worldwide. In their report, "Young children and their internet use" European researchers Holloway, Green, and Livingstone (2013) pointed out that within the last five to six years there has been substantial

increase of ST use among children under nine years of age. For example, the use of touchscreen tablets has tripled between 2011 and 2012 in the United Kingdom (Holloway et al., 2013).

The research on the child's age when ST becomes an issue is inconclusive and scant. This might be attributed to the fact that ST is a relatively new issue to our modern technology-enhanced society. However, it is clear that children start using ST at a very young age. According to Australian researcher Johnson (2010), 40% of children in Australia ages 4-6 have been surfing the internet for at least two years. In the study, 90% of the sample of first and second grade children reported using the internet at school, less than two-thirds of the sample reported using the internet at home (Johnson, 2010). The results of a poll of more than 2,300 American students attending grades 4-12 (ages 8 to 18) demonstrated that only 1% of respondents did not use any type of digital technologies (Nagel, 2013). Out of those students, 71% used laptops, 66% used desktops, 21% of the students were using tablets such as iPad mini or Google/Samsung, and 50% used smart phones either in class or at home (Nagel, 2013).

Linn, Wolfsheimer, and Levin (2012) are convinced that media use begins in infancy; 29% of babies under the age of 12 months watch TV for an average of two hours and 30 minutes, and 64% of children 12-24 months watch TV and videos averaging over two hours per day (Linn et al., 2012). By the time children reach adolescence, ST use doubles or triples. Children 8-18 years of age spent approximately 7.5 hours per day with media, including TV, computers, video games, and movies in 2013 alone (Wethington, Pan, & Sherry, 2013). Screen time use among children is staggering, is on the rise, and begins as early as infancy. For example, the prevalence of ST among 6th to 8th grade students doubled between 2000- 2002 from 27% to 60% (Herrick, Farkhour, Carlson, & Fulton, 2014). In spite of the AAP recommendations and healthcare professionals addressing the issue of ST excess, only 27% of youth ages 12-15 met AAP

recommendations in 2012 (Herrick et al., 2014). Screen time begins before school age; more than 60% of children 12-24 months and older spend more than two hours per day in front of the screens (Linn et al., 2012; Wethington et al., 2013).

Screen time can be classified into two types: recreational screen time (video games, social media, phones, etc.) and academic screen time (school work, research, reading, etc.). An example of academic ST use is any type of electronic device use during classroom time or at home for academic purposes. Children who know the difference between recreational ST and academic ST use may make healthier choices when it comes to decisions for screen time substitution with other activities. Many educators believe that they act in the best interest of their students, and many schools started to provide students with personal portable take home electronic devices. Healthcare practitioners, pediatricians, and nurse practitioners, on the other hand, educate children and their parents about the negative effects of ST use. Understanding different types of ST use is important because ST use is cumulative regardless of ST type.

A discrepancy between healthcare and education about ST is frequently observed at schools. Healthcare professionals assert the importance of reducing the amount of time children spend in front of screens. Teachers and educators, on the other hand, utilize technologies for students' academic performance and push technologies to aid with student learning. Educators and parents look at technologies as an aid for their children's learning by adopting new technologies in meeting children's learning and social needs (Johnson, 2010). Screen time, however, if used more than two hours per day contributes to poor academic performance (Wethington et al., 2013).

Technologies, especially portable electronic devices, and internet surfing are very popular among children and adolescents. In Nagel's (2013) survey approximately 92% of the students

agreed strongly that tablets or any other portable devices will make learning more fun and be helpful to do better academically; 87% said that they would prefer digital textbooks to be substituted for traditional textbooks. Johnson (2015) studied 38 children in first and second grade to describe the patterns of internet use at home vs. school, with respect to type of use such as exchanging email, visiting websites, and playing games. Out of 90% of the students who reported using the internet at school, the majority reported that internet use was enjoyable. More children reported using internet at school than at home, but home-based internet use was reported to be more often perceived as enjoyable. With respect to both home- and school-based internet use, playing games was most frequently reported by the sample of children, followed by visiting websites and exchanging email. Two major limitations of the study were that this study did not provide statistical analysis based on gender internet use, and had a small sample size (Johnson, 2015).

Problem Statement

Based on the needs assessment conducted in February 2016 by one of West Michigan's school-based health centers, there is a concern that 34% of students attending 4th and 5th grade in that particular public school reported that they spend on average three and more hours per day on recreational ST. Those students surveyed by the school- based health center entered 6th and 7th grades during 2017-2018 academic year. An informal poll was conducted with some of the surveyed students by the Doctor of Nursing Practice (DNP) student during the organizational immersion experience in April 2017. Sixteen students attending 6th grade participated in the poll. Those students attended 5th grade during the survey conducted in February 2016 (academic year 2016-2017). The majority of the polled students reported spending three or more hours of screen time per day on average and that they had TVs in their bedrooms connected to different devices

such as X-boxes and Netflix. Nine of sixteen students reported utilizing more than four hours of screen time per day (approximately 69%). The purpose of this project was to establish healthy lifestyles through a program that implement a physical activity and health education (nutrition, physical activity, and recreational screen time) with a major intention to decrease recreational screen time in the after school program and to evaluate the project's acceptability and sustainability by students, parents, volunteers, and organization.

The school-based health center needs assessment showed more than approximately 34% of the students spending more than four hours in front of their screens daily. In the informal poll during the after school program, twice as many of the students reported spending three or more hours on ST. This increase might be attributed to the smaller sample size and type of setting for data collection (formal survey during class time vs. informal round table discussion). There is also a possibility that ST use increased with age in this school. Regardless, both formal and informal surveys' results showed a high need for ST interventions among students attending this West Michigan public school.

Literature Review

A literature search was performed to explore the ST issue and evidence-based interventions effective for ST reduction. The following electronic databases were used for this literature review: CINAHL, Medline, Pubmed, and Google Scholar. The search for interventions addressing ST included the following search words: "screen time interventions," "screen time," "health," "computers," "video games," "children," and "health." The majority of articles identified from these databases included general health screening research and therefore were not included in this review. The search was limited to pediatric and academic journals during 2007-2017. Attributing to the fact that ST is a new phenomenon a ten years range was chosen.

Searching for the word "screen" has been problematic because there is no MeSH to differentiate between media use and health screenings such as drug screen. Cochrane research system did not identify any studies addressing ST among children and adolescents. This might also be attributed to the fact that ST is an emerging phenomenon, which has not been well researched. CINAHL database yielded 645 research studies when typed to search for "ST interventions." CINAHL included 15 articles related to ST use and only two randomized clinical trials (RCT) addressing reduction of ST among children. Pubmed identified 33 systematic reviews, however those were not exclusively related to ST interventions. Several systematic reviews were found by searching on Google Scholar for "interventions" and "reduction of screen time." There were four systematic reviews included in the following literature review after ruling out studies that did not meet the inclusion criteria. The GVSU librarian was utilized to search for RCTs. The librarian suggested including studies that address childhood obesity because of the research described earlier that identifies the relationship of obesity and ST. There were six RCT studies and three multicomponent intervention included in the following literature review in addition to four systematic reviews. These RCTs were individually located based on the references in the synthesis reviews.

Based on results from Steele (2012), it is likely that excessive ST contributes to overweight/obesity and consequently to sedentary lifestyles. Interventions targeting overweight/obesity were included in this literature review because there is evidence that those interventions are also beneficial in ST reduction. The literature review presented below was guided by the project's clinical question. To what degree can a preventative health program increase physical activity and awareness of health wellness knowledge including decrease recreational ST and be desirable among students attending 6th and 7th grade in one of west

Michigan's after school programs? Considering that ST and physical activity are modifiable behaviors and found to be related to weight status, it is likely that interventions targeting PA may be beneficial not only in weight reduction but also to decrease ST.

There is evidence that ST and overweight/obesity are interrelated. Herrick et al. (2014) linked ST of more than two hours daily to childhood obesity. Therefore, interventions targeting obesity reduction are beneficial to include when it comes to interventions targeting ST reduction (Maniccia et al., 2014; Rosen et al., 2014). Wethington et al. (2013) gave another simple explanation on how obesity positively correlates with ST. Time spent in front of the screens takes away time which potentially could be used for other activities such as exercise or play (Wethington et al., 2013). Assuming that ST is a sedentary type of activity, it may lead to overweight and obesity. Programs that target overweight and obesity through healthy nutrition and an increase in physical activity (PA) have the potential to decrease ST. A literature search was performed to identify evidence-based interventions effective for ST reduction and improvement of healthy lifestyles including ST. There are four systematic reviews, five randomized control trials (RCT), and three multicomponent interventions included in the following literature review.

Meta-analyses and Randomized Controlled Trials

Wu, Sun, He, and Jiang (2016) and Wahi, Parkin, Beyenne, Uleryk, and Birken (2011) presented evidence that interventions targeting childhood obesity are also effective in ST reduction. Both meta-analyses had primary outcome changes in BMI and secondary outcome changes in ST. Wu et al. (2016) analyzed eight trials and showed that interventions targeting reduction of ST had a significant effect on BMI reduction (95 % CI – 0.23, - 0.08; $P< 0.001$). They analyzed 14 trials included for the secondary outcome which demonstrated a statistically

significant reduction of ST between control and intervention groups (mean difference- 4.63 hours/week, 95% CI -7.68, -1.59; P= 0.003). This significant effect of ST reduction following the intervention was observed in > 7 months (Wu et al., 2016). Wahi et al. (2011) found non-significant mean changes for both BMI and ST between control and intervention groups for both primary (p = .32) and secondary outcomes (p = .49). Interventions conducted at schools had a small statistically significant effect on reducing ST; home–based interventions did not show statistically significant results. The ST mean change between groups was –1.66 hours/week. However, the mean change between control and intervention group was significant (p = .04) among children six years or younger for ST reduction (Wahi et al., 2011). Maniccia, Davidson, Marshall, Manganello, and Dennison (2011) intended to determine the overall effectiveness of the ST interventions. Most of the included studies were conducted in the United States were implemented in the school setting, and used behavior modification techniques, more than half of which were based on social cognitive theory (SCT). The meta-analysis yielded a small yet statistically significant reduction in children's ST if implemented at schools; the home-based interventions did not (Maniccia et al., 2011).

The major findings of these meta-analyses and reviews are summarized below (Maniccia et al., 2011; Wahi et al., 2011; Wu et al., 2016). A small positive change in reduction of ST is considered to be beneficial when it comes to behavioral interventions. Parents of preschool children may have more control over the lifestyle of their children at this age. Interventions involving parents and using a multicomponent approach that includes increased PA, dietary modifications, and health education were effective in ST reduction based on systematic reviews and meta-analyses (Wahi et al., 2011). The most effective site for implementation was a school or after school setting. There is scant research on ST interventions alone. However, studies

addressing ST reduction were observed during childhood obesity interventions and multicomponent interventions addressing healthy lifestyles such as healthy nutrition and PA. Parents were found to be very influential when it comes to behavioral modifications. SCT and self-efficacy theory have been widely used while implementing interventions targeting reduction of ST.

RCTs addressing ST reduction are presented below. Ezendam, Brug, and Oenema (2012) evaluated the short- and long-term outcomes of a 10 week web-based computer-tailored intervention FATaintPHAT aiming to increase PA, decrease sedentary behavior, and promote healthy eating. The mean participants' age was 12.7 in the intervention group and 12.6 in the control group. The intervention consisted of eight 15-minute modules issued to manage weight and energy-balance-related behaviors. The modules were incorporated into the school curriculum at teachers' discretion. The data were collected via surveys, demographic information, and anthropometric measures at baseline, four months, one year, and two years following the study (in 2008 and 2009). The regression analyses showed no intervention effects on BMI. However, anthropometrics and fitness improvements were found at the two year follow-up; behavioral effects were only found at the four month follow-up. The authors suggested that if interventions are implemented without repeated reinforcement the intervention effectiveness will likely reduce over time (Ezendam et al., 2012).

Another 20 month RCT study researched parental importance in regulation of 6th and 7th grade Norwegian children's ST (Berg et al., 2014). The study's outcome was healthy weight development through promotion of physical activity, screen time and dietary behaviors. This intervention consisted of individual, group, and environmental strategies targeting promotion of participants' dietary, ST, and PA behaviors during school and leisure time. Adolescents

completed questionnaires about their screen behavior and received personal feedback on how to change their TV/computer/game use. The parents reported their children's ST behaviors following the intervention after 20 months. The participants reported their weekday and weekend TV-viewing and computer use at baseline, and at 20 months post intervention (Berg et al., 2014). Analysis between intervention and control group in participants' demographics, ST behaviors, and anthropometric measures was performed via t–tests, linear regression, and Chi-square tests (Berg et al., 2014). Adolescents' weight (normal vs. overweight) did not contribute to the intervention effect but showed moderating effects of ST by weight status and gender. The researchers suggested that parental influence is beneficial when it comes to interventions targeting ST reduction because regulation of the use of electronics seems to be rooted in social-environmental determinants. They suggested parental regulation to be combined with other strategies when implementing ST interventions (Berg et al., 2012).

Two RCTs aimed to determine the relationship between ST, PA, and obesity. Maher, Olds, Eisenmann and Dollman (2012) and French, Gerlach, Mitchell, Hannah, and Welsh (2011) were included in the literature review for this project. In the Maher et al. (2011) study, the level of ST was associated with likelihood of being overweight among both boys and girls, with $p = .00001$ for boys and $p = .02$ for girls. The relationship between overweight and moderate to vigorous physical activity (MVPA) was not significant; however MVPA was associated with a 15% reduction of likelihood to be overweight or obese. Students who did not meet Australian ST guidelines were 37% to 89% more likely to be overweight than those students who met ST guidelines. The study findings support the statement that compliance with ST guidelines was a stronger indicator of weight status than physical activity (PA) guideline compliance. The study findings suggest that ST reduction may be more effective when targeting behaviors to reduce

overweight among children (Maher et al., 2012). French et al. (2011) evaluated the effectiveness of the intervention for weight gain prevention. The primary outcome of the study was to measure change in participants' BMI scores; the secondary outcome was to identify changes in food choices, PA, and TV viewing behaviors. The study lasted for one year. The intervention consisted of six months of face-to-face group sessions, monthly newsletters, and 12 home-based activities. The sessions lasted two hours and included behavioral education, interactive activities, 20-30 minutes of PA, and a healthy snack. Families in the intervention arm of the study were provided with a TV limiting device attached to every TV in the household. The data were collected at baseline and at 12 months. No significant differences in BMI scores and changes in PA were observed in the intervention group. However, there was a significant decrease in TV viewing hours among the intervention group compared to controls – 0.4 hours less per day with $p < 0.04$ (French et al., 2011).

An eight weeks feasibility trial for "Teamplay" evaluated the relationship between PA and screen viewing behaviors of 6-8 year-old children and their parents (Jago et al., 2013). The data were collected before the study, after the study, and at four months following the study. The intervention was delivered through discussions and activities such as handouts and charts in group sessions for parents without their children. All children and their parents were asked to wear accelerometers for seven days at each point of data collection. The percentage of parents who viewed TV for more than two hours per day decreased from 33% to 7% at eight weeks and to 6 % at six months following intervention in the intervention group; and from 76% at the baseline to 39% after the intervention among children in the intervention group. However, it increased back to at least 50% in eight weeks after the intervention among parents and children participants (Jago et al., 2013).

Multicomponent Interventions Effective in Screen Time Reduction

Based on the meta-analyses and RCTs discussed above it is likely that multiple variables affect ST use. Therefore interventions targeting a decrease in ST should carry a multifactorial approach. Three evidence-based interventions with multicomponent curricula targeting ST reduction, diet education, and PA are Coordinated Approach to Children's Health (CATCH), Planet Health, and "Let's Go." These are presented below. A multicomponent intervention, CATCH, was originally developed by researchers in Texas at the University at Houston (CATCH, 2016; Flaghouse, 2016). The program has been effective in obesity reduction and PA increase. CATCH demonstrated its effectiveness for obesity reduction and healthy lifestyles through 25 years of continuous research and development. The program has been supported by at least 120 academic papers and has been implemented in over 10,000 sites, mostly in the United States, but also in several other countries. CATCH is guided by a holistic multicomponent approach targeting health promotion at community-based settings such as schools and after school programs. The intervention consists of five modules emphasizing healthy lifestyles (CATCH, 2016).

"Let's Go" is another multicomponent intervention of interest for this literature review, particularly because of its ST and PA components. It is a nationally recognized childhood obesity, evidence-based prevention program guided by strategies targeting healthy eating and active living (Let's Go, 2016). The program highlights the importance of engaging in daily activities of healthy living by conveying a 5-2-1-0 message: eating five or more fruits and vegetables, spending two hours or less of recreational ST, one hour or more of physical activity, and consuming zero sugary drinks (Let's Go, 2016). The program has been successfully implemented for ten years, mainly in the state of Maine, in community-based programs such as

childcare (n = 232), schools (n = 209), out-of-school programs (n = 118), and in 175 health care practices (Vine & Rogers, 2016). The latest "Let's Go" report showed a significant increase in children who limit their recreational ST to less than two hours per day, from 38% of children in 2007 to 45% in 2011 (Let's Go, 2016).

Rogers et al. (2012) evaluated 12 projects that implemented "Let's Go." Telephone surveys were conducted to a randomly selected sample of 800 parents of children ages newborn to 18 years who lived in the "Let's Go" area. The survey was conducted in 2007, 2009, and 2011. The surveys measured awareness, knowledge, and behaviors related to the 5-2-1-0 message. In 2007, the survey sampling followed a stratified approach to interview a similar number of parents in each of the 12 participating municipalities. The survey instrument covered questions including parent behaviors, child behaviors, awareness of and receptivity to the program, future interventions to change behaviors, and family demographics. In 2007, the majority of parents reported the program to be "very positive" on a five point Likert scale. In 2011, approximately 31% of parents reported that their child/children met at least three of the four 5-2-1-0 recommendations. Approximately 41 % of parents reported that they were likely to make changes to increase their child's PA. As a recommendation for sustainability of community-based programs, which target behavior interventions, it was suggested to engage parents, strengthen policies in local sites, and expand partnerships with stakeholders. The "Let's Go" program is a community-based awareness and environmental change approach to increase PA and healthy eating by reaching out to children and their families in multiple settings. The five year implementation of "Let's Go" was associated with improved parental understanding of healthy behaviors as well as child behavior changes (Rogers et a., 2012).

An evidenced-based multicomponent intervention that targets increasing PA and addresses ST is "Planet Health" (Planet Health, 2007). "Planet Health" (PH) is designed for teaching middle school nutrition and PA, specifically directed on enhancement of academic, physical and health education among middle school students (Planet Health, 2007). The program has been implemented in more than 120 schools in Massachusetts (Center for Disease Control [CDC], 2012). Its effectiveness, feasibility, acceptability, and sustainability were demonstrated when it was implemented in public schools. The PH curriculum has been purchased in 48 states and 20 countries. The program cost is only $14 per students per year. The PH program was found to be highly cost-effective: for every dollar spent on the program in middle school, $1.2 in medical costs would be saved by the time those children reach middle age (Centers for Disease Control and Prevention [CDC], 2012). The Boston public schools selected six inner-city middle schools to participate and provided Planet Health workshops for teachers. More than 90% of those teachers found the curriculum effective and believed that it made a positive contribution to the existing class material. The study findings showed a significant decrease in the prevalence of obesity among girls and reductions in television watching for both girls and boys. The program was readily adopted by teachers as evidenced by the public expansion of its use in Boston. The implementation of PH has been cost-effective and projected to save money during future implementations (CDC, 2012).

Evidence Based Initiative

Based on the detailed literature review presented above, excessive ST is correlated with obesity (CDC, 2012). The CDC (2012) recommends improvement of nutrition and PA via an inter-disciplinary curriculum in public schools. It is likely that sedentary children or adolescents are involved in sedentary activity, such as screen time, which replaces activities such as reading

books, drawing, coloring, etc., in modern society. A conclusion from the literature review is that parental involvement is crucial. However, since children spend most of their time at school, interventions targeting healthy behaviors, such as ST, PA, and diet, need to be implemented in the school setting and involve parents and caregivers. The school environment is the most promising to implement educational and experiential lifestyle interventions, because children spend a substantial portion of their day at schools.

Therefore, findings from the reviewed literature present effective interventions using a multicomponent approach that targets physical activity, nutrition, and screen time and that demonstrates with an evidenced-based acceptability in a school-based setting. This multi-pronged approach was utilized while developing this "Let's Move Away From Screen" project. The multicomponent intervention, "Let's Go," was chosen to guide the "Let's Move Away From Screen" project because of its documented effectiveness and low cost. Also, "Let's Go" is a nationally recognized, evidence-based prevention program for childhood obesity with more than ten years of documented research of successful implementation in schools and after school programs. These school settings include elementary schools, afterschool programs, and childcare programs.

Rogers et al. (2012) assessed the strength of the environmental changes in elementary schools, childcare, and after school programs. The researchers concluded that the community-based intervention, "Let's Go," with a consistent message of 5-2-1-0 can positively impact the behaviors of children that contribute to childhood obesity. Rogers et al. (2012) also measured the extent of the implementation of the "Let's Go." They found that volunteers in schools, childcare programs, and afterschool programs can implement site-based programs targeting healthy eating and physical activity when allowed to choose priorities and simple tools from evidence-based

programs like "Let's Go" (Rogers et al., 2012). While the CATCH program is also a good evidence-based initiative, it is not as oriented to site implementation acceptability as "Let's Go." Planet Health was not chosen for "Let's Move Away From Screen" because the program is a multidisciplinary approach and is designed solely for implementation into a school curriculum. Implementing projects into a school curriculum is more complicated than implementing changes in an after school program. Therefore "Let's Go" was a better fit as an evidence-based initiative for "Let's Move Away From Screen" because of the short timeframe for implementation.

Social Cognitive Theory Defining the Phenomenon

More than half of the studies analyzed in the literature review addressing multicomponent interventions targeting health education, PA, and ST were rooted in social cognitive theory (SCT) and one of its major concepts, self-efficacy, while implementing behavior modification techniques (Maniccia et al., 2014; Wahi et al., 2011). Social theorists believe that humans do not operate as autonomous agents. Instead, they acquire a sense of self through socially constructed experiences via the reciprocal interplay of cognitive, behavioral, personal, and environmental determinants as well as from vicarious experiences, or the observation of others (Bandura, 1977). Social cognitive theory views humans as contributors to their own behavior through the reciprocal relationship of personal, cognitive, behavioral, and environmental factors. The interaction of those factors determines human motivation and the importance of self-efficacy beliefs in influencing behavior change (Bandura 1997; McEwen & Wills, 2011).

A mid range theory, self-efficacy theory, was developed as a part of SCT by psychologist Albert Bandura. Social cognitive theory is suitable when implementing interventions targeting behavioral changes (Bandura, 2006). Bandura believed that self-efficacy is a key resource in personal development. He suggested that behavior change is difficult without improving an

individual's self-efficacy. The self-efficacy theory proposes that perceived self-efficacy can influence expected outcomes that are highly dependent on self-efficacy judgment (Resnick, 2009). Bandura hypothesized that people with low self-efficacy easily give up when encountering difficulties; people with high self-efficacy can face difficulties very well (Bandura, 2006). Sollod, Wilson, and Monte (2009) described self-efficacy as a belief about personal competence or capability to perform a behavior. Outcome expectations are mostly based on the individual's self-efficacy expectations and the person's estimate that a given behavior will lead to a certain outcome (Bandura, 1977; Resnick, 2009).

Expectations of personal efficacy are derived from the concepts of performance accomplishments, vicarious experience, verbal persuasion, and physiological states (Resnick, 2009). Performance accomplishments are based on personal mastery experiences: more successful experiences raising mastery and repeated failures lowering it. Vicarious experiences are observations of others modeling a behavior. When outcomes are clear, this builds higher self-efficacy in the observer. When outcomes are unclear, self-efficacy is less certain (Bandura, 1977). Social encouragement by those who possess capabilities to master difficult situations – verbal persuasion – is more likely to generate greater effort on the part of the individual (Bandura, 1977, p. 198). Physiological state refers to an individual's physiological self-evaluation such as arousal, fatigue, or pain, which might affect the execution of the behavior (Bandura, 1977).

Social cognitive theory and self-efficacy theory are incorporated into the figure presented below developed by the DNP student (See Figure 1). The concepts used in the figure were adopted from Bandura's SCT and self-efficacy theories. The figure represents the reciprocal relationship of personal, cognitive, behavioral, and environmental factors in the upper portion.

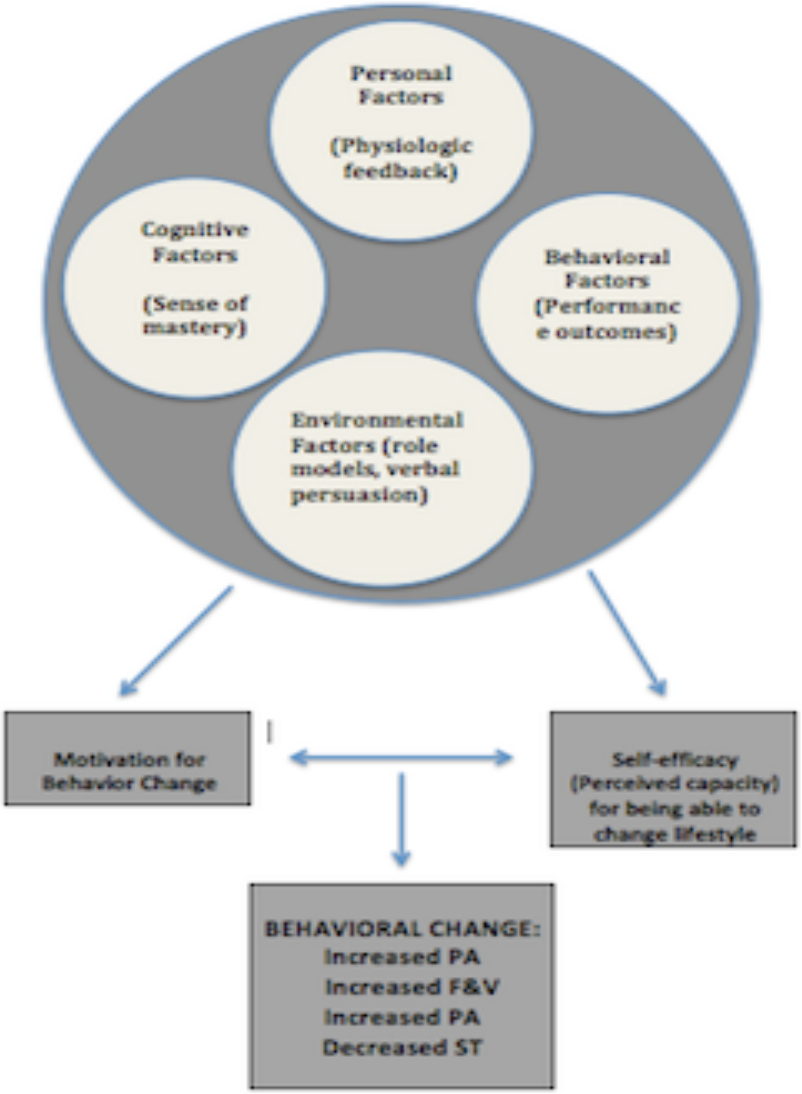

Figure 1. Social Cognitive Theory and Self-Efficacy as Depicted for this Project

The uniqueness of the figure is the addition of the project’s variables such as nutrition, physical activity, and screen time in the lower portion depicting the project’s derived outcomes. The figure explains the complex phenomenon of students’ behavior and its underlying

psychosocial dynamics. The "Let's Go" intervention was designed to incorporate self-efficacy theory, particularly when measuring the variables of interest – screen time decrease, physical activity increase, and improved nutrition. The DNP student modeled behaviors (vicarious learning about exercise, physical activity, and screen time). Students were provided nutritional snacks and activities (performance accomplishments) and had lessons and handouts (verbal persuasion). Students possibly experienced some changes physiologically as a result of class activities (exercise and snacks).

For this project, the SCT and self-efficacy theories support the study's assumptions about expected outcomes. These outcomes are improvement of students' healthy lifestyles indicators (nutrition, physical activity, and screen time). More confident students who believe that they are capable of adopting a healthy lifestyle through healthier nutrition, more activity, and decreased ST will exhibit more confidence through their health-behavior change. Especially, they can be expected to increase fruits and vegetables consumption, decrease carbonated/sugary drinks, increase physical activity, and decrease recreational screen time. A child with high self-efficacy believes that he/she can perform and will be motivated to try his/her best to achieve established outcomes or even more (Kepley, 2013). A child with low self-efficacy might not even try to perform because he/she does not believe that he/she can perform in certain activities (Kepley, 2013). Students who report the ability to decrease ST are likely confidant that they can do it and might have better outcomes than those students who have never tried to decrease their ST. However, self-efficacy is not directly measured in this project. Rather, the project assumes that self-efficacy will facilitate behavior change.

Implementation Model to Guide Project Methodology

The Promoting Action on Research Implementation in Health Services (PARiHS) framework was chosen as an implementation model to guide the project methodology (See Appendix A for permission to reproduce the model). This framework was developed by Kitson, Harvey, and McCormack in 1998 as a response to drive quality improvement within a continuously evolving organization that is responding to the cost of healthcare and the complexity of implementing research-based evidence into practice (Rycroft-Malone, 2004). The framework follows the equation: successful implementation is equal to the function of three elements – evidence, context, and facilitation (Kitson et al., 1998). Based on Kitson et al. (1998), these three elements undergo a dynamic simultaneous process with each positioned on a high to low continuum (See Appendix B for the PARiHS framework diagram).

The first element, evidence, has a better potential for implementation if a combination of three dimensions – research, clinical experience, and patient preferences –are considered. The second element of the PARiHS framework is the context – a setting in which the proposed change is to be implemented. The context is also divided into three dimensions – the organization's culture, leadership roles, and measurement. The context is located on the low continuum in organizations that do not support the use of evidence, and high on the continuum in organizations that support the use of evidence. The last, third element of the PARiHS model is the facilitation – the techniques by which one person makes it easier for other people to change their attitudes, habits, and skills. There are several elements of facilitation: personal characteristics (openness, supportiveness, and approachability), the facilitator's role or relationship to the organization (external or internal), and style (flexibility, consistency,

appropriate presence, and support). The facilitator has a key role to play, which affects the context for change.

The successful implementation of research into practice requires a clear understanding of the nature of evidence to be used, the quality of the context regarding the ability to cope with the change, and the type of facilitation to ensure a successful change process (Kitson et al., 1998). Successful implementation would occur when the evidence is high, the context is receptive to change, and there is appropriate facilitation of the change. However, poor contexts may be overcome by appropriate facilitation. Also, strong evidence with appropriate facilitation may modify negative aspects of the context. The least successful implementation of research evidence has been experienced in situations where contexts and facilitation were low or inadequate. The authors theorized at least four positions where the extent of implementation could be successful taking high evidence as the constant. Those are: high evidence, low context, low facilitation; high evidence, low context, high facilitation; high evidence, high context, low facilitation; and high evidence, high context, high facilitation (Kitson et al., 1998).

All three elements of the PARiHS framework – evidence, context, and facilitation are located on the medium to high continua for this project. An in-depth literature review focusing on interventions targeting reduction of screen time yielded evidence-based multicomponent interventions which served as a template for "Let's Move Away from Screen." "Let's Go" is an evidence-based research program with ten years of successful implementation within different types of organizations. The program is highly supported by parents, children, and staff. Evidence is located on the medium to high continua because many studies resulted in either non-significant results or improvements in reduction of screen time. The DNP student assessed the organization's context by spending many hours within the organization during an immersion

experience. The after school director is highly supportive of the "Let's Move Away From Screen" program. This is evidenced by being actively involved in the project planning during the DNP student's immersion hours, making time for meetings with a DNP student, offering time for the DNP student to talk to students and implement certain physical activity exercises during the immersion experience, and promptly answering emails and phone calls. After reflecting on the needs assessment conducted by the school's health center and on the organization's current practice, the after school leadership agreed that implementation of this quality improvement intervention was crucial. The project was facilitated by a DNP student who worked with the school's health center where the need for the project was identified. Also, the DNP student engaged in the after school program for two semesters learning its structure. The after school program context is located high on the continuum because the organization supports implementation of evidence.

Organizational Assessment

The after school program partners with public schools and follows school policies. The after school program was created on demand of the school's district to serve students attending 6^{th} to 8^{th} grades at this public school system. The school's district leadership assumed that this age group is too old to attend the after school program offered by the elementary school. Also, the sports activities offered by the school district were for children starting in 9^{th} grade. This absence of after school activities and/or after school programs left students attending 6^{th} to 8^{th} grade without any options for activities. The school board, in collaboration with local businesses, supported the creation of an independent after school program for children attending 6^{th} to 8^{th} grades [redacted]. The program is free of charge. It is sponsored entirely through business donations and individuals who desired to invest in

children's development. Contributions are raised during an annual spring auction. The organization has an annual budget of $40,000. The program's staff consists of several retired adult volunteers, the director of the program, and one staff member. There are several high school honor society students who come on a daily basis to help run the program.

Students who attend this after school program have to comply with its policies and procedures. The program is only in operation when school is open. There have been discipline procedures established to ensure safety and wellbeing of all the students. These procedures align with the school's expectations based on consequences for poor choices. The discipline steps are the following: verbal warning, time out activities, suspension from the program for a period of time, and permanent removal from the program. Students can use the school's gym during winter and bad weather; however, sporting activities take place outside when possible. While the after school program is not dependent on the health center, the Doctor of Nursing Practice (DNP) student and the nurse practitioner working on the project have been working on improving students' health based on the needs assessment conducted by the health center. The after school director readily accepted the DNP student for the immersion experience with expectations of implementing the project addressing those assessed health needs.

The after school program's strengths and weaknesses as an organization were evaluated based on the strengths, weaknesses, opportunities, and threats (SWOT) model both before the project's proposal, and following the project implementation. SWOT is a useful tool to analyze the organizational strengths and weaknesses because it accounts for internal and external factors (Moran, Burson, & Conrad, 2017). The SWOT analysis aided in the implementation of this evidence-based multicomponent intervention targeting reduction of screen time. The following is

a brief overview of internal and external strengths, weaknesses, opportunities, and threats for the project (See Appendix C for SWOT Analyses).

There were several organizational strengths identified by the DNP student. First of all, the after school program collaborates with the school's leadership and has strong community support among its stakeholders, such as the school-based health center and other organizations willing to implement programs for students for free. The after school program had time in their schedule allotted for activities provided by stakeholder organizations. Physical activity was already incorporated into the schedule, which removed possible barriers for implementation of the project and made it more desirable for students. Several internal weaknesses of the organization identified by the DNP student were students' behavioral problems, their demographics (many students come from disadvantaged families with low parental/family support), low parental involvement, and low parental health literacy and education level. It was thought that students' misbehavior and/or inability to listen and follow instructions might be a factor that would disrupt implementation of the program, particularly the physical activity component. Also, the existing physical activity in the after school program was unstructured and varied from day to day.

The after school program had numerous external opportunities for support. As mentioned above, stakeholders offered many programs for students including the GVSU DNP student implementing the "Let's Move Away From Screen" project. Also, involvement of the high school honor society students as after school volunteers earning leadership community hours was invaluable. The biggest internal threat for the after school program was if the organization could not fundraise enough money to cover the annual budget or lose funding through its matching fundraising budget. This was possible if students stopped attending the program due to loss of

interest in activities provided there. Improving physical activity and implementing health lessons is one of the ways for improvement of after school activities. The DNP student, in collaboration with the school-based health center, could improve the program's physical activity curriculum and also add health education classes to the program. If honor society high school students continued to volunteer in the program implementation once the DNP student left the organization, they could strengthen the project's sustainability.

Key Stakeholders

The project was implemented in a West Michigan after school program designed for 6th to 8th grade students. The after school program is an independent Christ-centered organization. Its function is dependent on its two stakeholders – the public school and local businesses – which contribute to the annual fundraiser for the organization by matching annual funds. The DNP student identified a specific health concern – excessive screen time (more than two hours) reported by students attending that public school – during a health needs assessment conducted by the school-based health center where this student had her pediatric primary care clinical rotation. The after school program attended by those students was identified as the best site for health education if a program could be designed by a DNP. The same students attending the after school program were attending the public school and used the school-based health center (See Figure 2).

If the project gained popularity among students and the organization, it could be implemented by volunteers and the after school program's staff every year. Every year different students enter the after school program and can be exposed to health education, physical activity, and receive additional education on screen time. The director of the after school program was receptive to the project. The after school program already had physical activity incorporated into

its curriculum. However, "Let's Move Away From Screen" added structure to the already existing after school program's offerings. Kelder et al. (2013) pointed out that adequate funding is an integral component of a project's sustainability. It is recommended to involve stakeholders to ensure a project's sustainability through the stakeholders' funding. In addition to informing

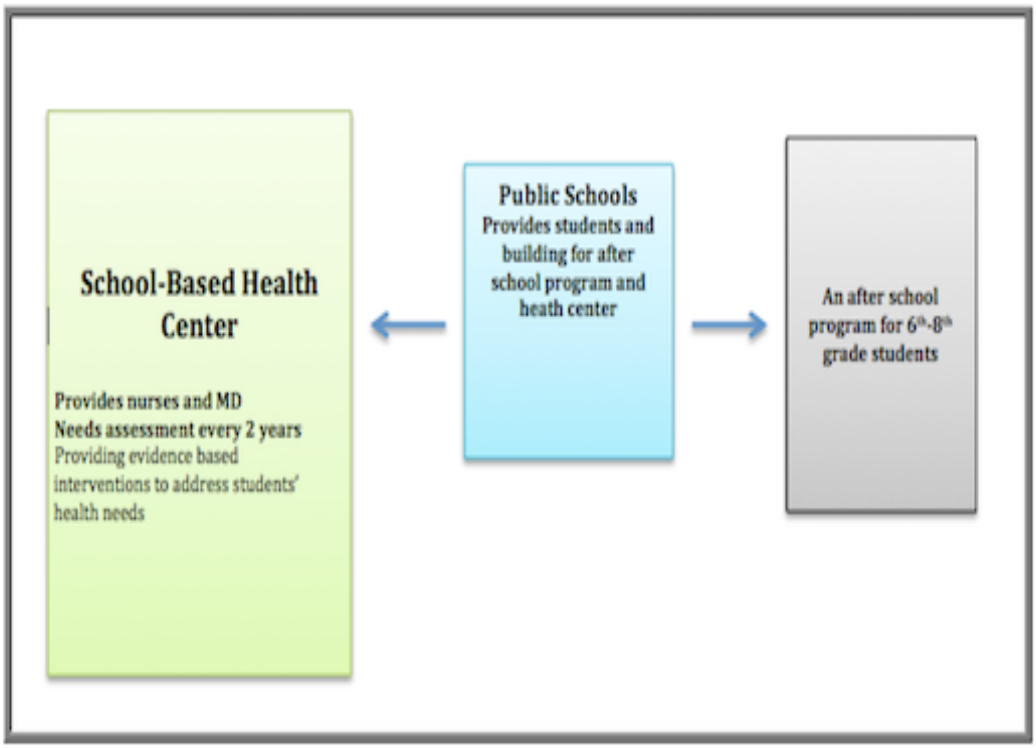

Figure 2. Interconnectedness of One of the West Michigan's Public Schools, School-Based Health Center, and After School Program.

stakeholders such as local businesses during the annual fundraiser about the after school's progress, promoting family fun nights, can be beneficial for raising funds and increasing awareness about a program's need. Newsletters/parents'/teachers' handouts about a program are other ways to increase awareness about the program and attract stakeholders' interest (Kelder et al., 2012).

Building trusting relationships with the after school director, school's principal, and students' parents are key factors to sustainability of this project. Hopefully, high school honor society students will continue to earn their service hours by helping with the project's ongoing implementation. Facebook page updates about the organization's program and continuous communication with parents via Facebook can contribute to the project's sustainability within the organization. The project's toolkit was given to the organization to facilitate implementation of the program in the future.

Needs Assessment

The project implementation was driven by the need identified by one of West Michigan's school-based health centers. State-funded child and adolescent health centers in Michigan are required by the state to administer a risk assessment on all patients by the third visit (Salerno, 2012). Risk assessment is an integral part of the school-based health center and guidelines (Salerno, 2012). This school-based health center operated on a grant and was state funded. As a part of the grant requirement, the school-based health center was obligated to conduct a health care needs assessment among its students every two years in each grade, and implement an evidence-based intervention based on the identified needs for improvements (K. Palivoda, personal communication, February 27, 2016). The manager of the school-based health center conducted the health needs assessment based on the Rapid Assessment Adolescent Preventive Services tool (RAAPS) elements every two years among 4th and 5th grade students. The most recent RAAPS survey was conducted in February 2016 (K. Palivoda, personal communication, February 27, 2016).

The health needs assessment was conducted among 514 (278 boys and 236 girls) students attending 4th and 5th grades by incorporating the RAAPS screening tool in Survey Monkey during scheduled class time [redacted]. The needs assessment revealed the highest targets for interventions were excessive ST (more than two hours per day), bullying, safety during recreational activities (wearing a helmet during recreational activities), and unstable emotional wellbeing such as stress and/or sadness [redacted]. Approximately 44% of the polled students reported feeling stressed and/or sad a few times per month, 9% every month, 12% every week, and 14% every day. Almost 44% of the polled students spent less than two hours per day on screen time while 22% of the students averaged two hours per day. Even more concerning was that almost 10% of the students spent over three hours and 24% averaged more than four hours of screen time per day. The “Let’s Move Away From Screen” project aimed to address part of the health needs identified by this assessment conducted in February 2016, particularly screen time.

“Let’s Move Away From Screen” Plan

The “Let’s Move Away From Screen” project was implemented in the aforementioned West Michigan after school program. The project was designed as a quality improvement intervention based on the multicomponent (nutrition, physical activity, and screen time) evidence-based program “Let’s Go.” The purpose, objectives, type, design of the project, the setting, and needed resources are described below.

Purpose of Project with Objectives

The purpose of “Let’s Move Away From Screen” was to implement physical activity and health education (nutrition, physical activity, and recreational screen time) with major intentions

to (a) establish healthy lifestyles and decrease recreational screen time in the after school program and (b) evaluate the project's acceptability and sustainability by students, parents, volunteers, and the organization.

The objectives of the project were the following:

1. Increase students' confidence in their ability to live healthy lifestyles (nutrition, physical activity, and screen time) via handouts, lessons, class activities, education for parents about healthy lifestyles, and demonstration of moderate to vigorous physical activity exercises.
2. Improve the after school program's offerings via implementation of structured physical activity and health education and determine the project's acceptability to students, parents, and the after school program's staff.

Type of Project/ Design

"Let's Move Away From Screen" is a quality improvement (QI) project based on an evidence-based practice initiative "Let's Go." A quality improvement project is an improvement of quality and safety outcomes via systematic guided activity of monitoring, evaluation, and improvement (Moran et al., 2017). "Let's Move Away From Screen" aligns with QI elements because its aim and outcomes were directed towards improving the existing after school physical activity program and adding a health curriculum that focuses on nutrition, physical activity, and decreased screen time. An evidence-based initiative "Let's Co" and the setting were based on the literature review findings and organizational needs to satisfy the project's QI design.

Setting and Needed Resources

An organizational assessment was conducted prior to designing the project to ensure that the organization was suitable and had the need for project implementation. The implementation

required very few financial resources during implementation (see Figure 3). In addition to the actual cost analysis, Figure 3 also represents the hypothetical cost for the project implementation, if the graduate student was to get an hourly wage and printed materials were not free.

Expense	**Cost**	**Hypothetical Cost**	**Total**
1. Handbook	Free	Free	0.00
2. DNP student's work	Free In-kind	1 hour of work - $20 6 weeks x 4 hours=24 hours	$480
3. High school volunteer students and after school program's volunteers	Free	0.00	0.00
4. Printed materials for project	Printed for free at GVSU lab In-kind	$ 0.12- black & white page $ 0.59- color page Letters to parents, consents, etc. – approximately 200 -300 pages 0.12 x 200— 0.12x 300= $ 24- 36 Handouts to parents and children, and class materials –200-300 pages 0.12 x 200— 0.12x 300= $ 24- 36	$48- 72
5. Gym and equipment	Free	0.00	0.00
6. Miscellaneous (snacks, school supply for projects)	$100	$100	$100
Total for project implementation	$100		$628 - 652

Figure 3. Cost Analysis "Let's Move Away From Screen"

Miscellaneous items such as snacks and school supplies for class activities are the only items that required financial resources for both the actual or hypothetical implementation. The project was developed based on a "Let's Go toolkit" designed specifically for implementation in an after school program. The toolkit is free of charge and can be accessed from the "Let's Go" website. The project's team members were the following: a doctor of nursing practice (DNP) student, two volunteers who work at the program on a regular basis, and one high school honor society student. All team members worked for free. The after school classrooms, activity rooms, and gym were available for the project at no cost. All materials were printed using the DNP student's printing account without cost for this implementation as an in-kind contribution. The number of pages printed for this project was approximately 500 pages, representing $50 of in-kind contribution from Grand Valley State University.

Methods and Design

This QI project "Let's Move Away From Screen" was a feasibility trial of an evidence-based health wellness intervention that included moderate to vigorous physical activity (MVPA) implementation and education about a healthy lifestyle for parents and children. The six-week trial was begun in the first week of November and lasted to the third week of December of 2017. "Let's Move Away From Screen" was designed by the DNP student based on evidence-based initiative, "Let's Go." "Let's Go" is a program developed and implemented throughout the state of Maine. "Let's Go" does not have the capacity to support out of state implementation (personal communication, K. Loveitt, March 2, 2017). The founders of the program suggested to use their toolkit and website to guide implementation of the program. They do not require permission to use their materials unless creating a local program. "Let's Go" program is trademarked, 5-2-1-0 is not. Many partners come up with creative names "5-2-1-0 ready set go," "live 5-2-1-0,"

"5-2-1-0 Orange County," and others. Toolkits are free on the website. Hard copies can be purchased from their online store (personal communication, K. Loveitt, March 2, 2017). The permission for "Let's Go" use was obtained (See Appendix D for permission for use of "Let's Go"). The after school program setting was chosen based on the literature review. Community settings such as schools and after school programs are found to be most effective in addressing healthy lifestyles, physical activity, and screen time (Maniccia et al., 2014; Wahi et al., 2011).

The proposal was approved by the project team. The physical activity sessions and health lessons were incorporated into the after school program's schedule through an agreement with the program director. Adjustments to the project plan were made accounting for the project team's feedback following the proposal presentation. A DNP student facilitated the project. The two organizational volunteers and one high school honor society student assisted the DNP student during implementation of the PA component and educational sessions. The high school volunteer specifically helped the DNP student to conduct physical activities and health lessons and ensured discipline during the project's implementation. The DNP student's responsibilities included training the project's team members; distributing consents for participation, handouts, and surveys; and conducting the educational sessions and the physical activity components. The DNP student ensured that parents, students, and volunteers understood the project and answered questions related to the project. The DNP student addressed project flow issues and continuously monitored its progress. The project was evaluated through pre- and post-surveys designed by the DNP student to evaluate the project's objectives. Further, the acceptability of the project to the after school program's staff and the capacity of the program to implement the project as designed in an ongoing sustainable way were evaluated.

Steps for Implementation of Project, Including Timeline

The DNP student met with the director of the after school program after approval of the proposal on October 18, 2018 during first week of November 2017 (one week prior the beginning of the project). The purpose for this meeting was related to logistics of the project. The following project details were finalized during this meeting:

1. Powerpoint content related to advertisement of the project
2. The content for the Facebook page used for after school program advertisement
3. Project's dates and times (See Appendix E)
4. Project's logistics (classrooms utilized for the project, gym building, and recruitment of participants and volunteers)

There were four phases for the project implementation: recruitment of participants and volunteers; education of participants and volunteers about the project; implementation of the project; and evaluation of the project. The first recruitment phase consisted of several elements: site, participants, and volunteers. This phase started during the project's planning in September 2017 when the director of the after school program gave permission for project's implementation (See Appendix F). The second part of this phase – recruitment of participants and volunteers – is detailed in sections "Recruitment of a Sample," "Student Volunteers," and "Organizational Volunteers" described below. A one-hour educational session related to the project and its implementation was planned and held one week before the project's implementation for the after school program's staff, volunteers, and honor roll students.

The project's implementation, the third phase, was planned in the following way. The project was planned to be implemented two hours per week (one hour during two days, mostly Mondays and Thursdays) for six weeks. An hour allotted for each day was used accordingly: 30

minutes for moderate to vigorous physical activity and 30 minutes of health lesson on Mondays; and 30 minutes for physical activity and 30 minutes for class or reinforcement sessions on Thursdays (See Appendix G). Physical activity and health education components involving nutrition, physical activity, and screen time were taken from "Let's Go" (See Appendix H for details). Parents were sent handouts in the beginning of each week (See Appendix I for details).

The final step, the evaluation of the project, was planned in the following way. The pre-implementation surveys were distributed to student participants during the first lesson and the post-implementation surveys at the end of the project (See Appendix J for survey details). Parents' interviews related to the effectiveness of the weekly handouts were conducted by the DNP student during the last week of the project (See Appendix K for parent's survey details). In addition, student participants were engaged in a round-table discussion at the end of the project (See Appendix K). The DNP student was also responsible for conducting an interview with staff and volunteers regarding the project's implementation (See Appendix K for staff and volunteers survey details). The DNP student planned these interview with parents, the after school program's staff and volunteers, and the high school student volunteer during the last week, and/or at the end of the project implementation.

Ethics and Human Subjects Protection

The after school program does not have an institutional review board (IRB) and therefore did not require approval before the project's implementation. The permission for project implementation obtained from the after school director was sufficient to start the project (See Appendix F for a copy of the permission form). The proposed project was submitted to the Grand Valley State University (GVSU) Human Research Review Committee (HRRC) for a determination of the project as quality improvement. A determination was made by the GVSU

Human Research Review Committee staff that this project was a quality improvement project and not research, and therefore exempt from review by the full committee (See Appendix L).

Recruitment of a Sample (Students and Parents and Volunteers)

Parents were given consents for students' participation along with DNP student contact information and the program information during students' dismissal one week prior to the beginning of the implementation (See Appendices M and N). The consent for participation consisted of two parts: parent and child. Parents and students were informed about risks and benefits of the program. Parents were told that they could withdraw their child from the project at any time without consequence. Students were told that they could stop participating in the project if they did not wish to continue. It was indicated in the consent that all information would be kept confidential and nothing identifying the child/children would be made available to anyone outside of the project. Parents were given an explanation that the project's data such as surveys and demographic information would be deidentified before being published on GVSU's Scholar Works. Data were kept secure in the Grand Valley State University research department lockbox. Parents were encouraged to ask questions at any time either via email provided by the DNP student or in person during project implementation or when the DNP student was present for parents' questions and interviews during the student's dismissal.

After school program volunteers were enrolled in the project in the following way. There were two after school program volunteers who agreed to help with the project's implementation. The organizational volunteers did not need to sign consent for participation because they signed it with the after school program and had their background check. The volunteers' major assigned role by the organization was to supervise students' behavior. One volunteer was assigned to the classroom on a daily basis. The volunteers had the same role while helping with "Let's Move

Away From Screen" as during after school hours. The volunteers came to the after school program based on their availability and preference. A total of two organizational volunteers participated in this project. However, on any given day there was only one volunteer assisting with the project.

Honor society students were enrolled in the project in the following way. A letter for honor students was sent via email to the director of the honor society inviting students to the after school program participation (See Appendix O). As an incentive for volunteering, students were offered verification/community hours signed each time they helped with a project. The students were provided with a sample of this senior service hours verification document to get familiar with the process (See Appendix P). There were three students who were interested in volunteering, but only one agreed to volunteer and attended all sessions including the training session. The honor society student who participated in the project consented for participation one week before the project's implementation. The student volunteer had her parent cosign her consent for participation (See Appendix Q). Low enrollment of student volunteers might be attributed to transportation issues. For example, students who did not drive and needed to take a bus home were not able to participate in the program.

Project Implementation

"Let's Move Away From Screen" was successfully implemented in the after school program in November-December 2017. The DNP student presented the health lessons and information and guided volunteers every day of the project implementation to ensure consistency of the project's flow and provide support to staff and volunteers.

Start Up in the Organization

An announcement about the project, created by the after school director, was posted on the after school program's Facebook page a week before the beginning of the project. The DNP student had access to the Facebook page. The after school program's Facebook page was updated regarding the project and its progress on ongoing basis. Parents were introduced to the project via an advertisement on a television display, which was located at the after school program's entrance. The information about the project was provided by the DNP student and presented via a repeating Powerpoint presentation with 5-7 slides (See Appendix R). Parents were encouraged to email the DNP student with any questions related to project details. The DNP student was available to answer parents' questions during project enrollment. A one-hour informational session/training was provided to organizational volunteers and staff involved in implementation of the project one week before the project's implementation. This session contained information about the project's purpose, objectives, content, outcomes, and information related to volunteers expected help. An additional 30-minute session related to project implementation was held several days before project implementation for the honor society student who expressed her wish to help with the project.

Sample (Student and Parent Participants)

There were no criteria for participation in "Let's Move Away From Screen" other than to be enrolled in and attend the after school program and to be in 6^{th} – 8^{th} grades. Students were allowed to sign up for the project until the end of the first week of implementation. Students' parents who wanted their children to participate enrolled their child/children in the program by signing consents for participation (See Appendix M). There were twenty students whose parents signed consents for participation. Four out of twenty students did not attend any sessions.

Therefore, the convenience sample initially consisted of sixteen students who started to participate in the project. Fourteen participants attended the program from the beginning to the end and completed both surveys. There were also two students who attended "Let's Move Away From Screen" but quit coming in the middle of the program. One female participant stopped attending in the middle of the program because her mother was injured at work and went on medical leave. A male participant stopped attending the program possibly because he might have

Table 1

Characteristics of Student Participants (N= 16)

Participants characteristics		Completing participants (n=14) n (%)	Non completing participants n (%)
Gender			
	male	1 (7)	1 (50)
	female	13 (93)	1 (50)
Grade			
	6	13 (93)	1 (50)
	7	1 (7)	1 (50)
Age (birth year)			
	11- 2006	9 (62.5)	1 (50)
	12- 2005	4 (31.3)	1 (50)
	13- 2004	1 (6.3)	
Race	Caucasian	9 (64)	
	Other	5 (36)	1 (50)
	Native American		1 (50)
Siblings			
	0	2 (14)	
	1	4 (29)	
	2	3 (21.5)	
	3	3 (21.5)	1 (50)
	4	2 (14)	1 (50)

felt uncomfortable as the only male participant. Table 1 represents the demographics of sixteen students (n = 14 completing participants and n = 2 non-completing participants).

Schedule

The project's implementation aligned with the after school program's schedule. The after school program runs mostly Monday through Thursday and occasionally on Fridays (See Appendix E and Appendix G). The project was implemented on Mondays and Thursdays with a few Tuesdays and one Wednesday. The project started at 2:45 p.m. and lasted until 3:45 p.m. Thirty minutes of health lessons were held once per week on Mondays and always started at 2:45 p.m. on Mondays. The physical activity session lasted for 30 minutes and was held from 3:00 p.m. to 3:30 p.m. on Mondays and at 3.15 p.m. to 3:45 p.m. on Thursdays. Thirty minute reinforcement sessions were held once per week on Thursdays and started at 2:45 p.m. before the physical activity sessions.

Lessons and Activities

The project was implemented according to the project plan designed by the DNP student and approved by the project's team (See Appendix G). Lessons were based on the "Let's Go!" curriculum, including discussions, handouts, and activities**.** Handouts about healthy lifestyles were distributed on Mondays during weekly educational sessions. Parents received weekly handouts related to healthy nutrition, exercise, and screen time based on "Let's Go" (See Appendix I). Reinforcement sessions were intended to reinforce knowledge gained during health lessons as well as to address students' questions. Those sessions were helpful for getting students' attention and focus after their day in school. Students were asked about how they used the class information since the last health lesson. Also, students were able to demonstrate their personal exercise plan as well as revise some physical activity exercises.

In addition to the health information provided by DNP student, students participated in activities. Students learned how to read nutrition labels and understand the meaning of serving size. Students performed structured physical activity twice per week. Examples of those exercises were jumping jacks, push ups, different forms of stretches, sit-ups, etc. In addition to the project’s planned structured activity, students created their own exercise plan and demonstrated it in class. The exercise demonstration served as a learning opportunity for students. The finalized personal exercise plan served as a template for activities students could perform at home.

Change as the Project Was Implemented

There were several activities added to the project during the project implementation. Those activities were developed and implemented by the DNP student accounting for students’ interest and needs, based on their questions. Two areas of interest expressed by students participating in the project and addressed by the DNP student were the sugar content in serving sizes and the personalized physical activity plan.

Students had a difficult time understanding the concept of grams and sugar content in the servings. A “Sugar handout” and activity related to calculations and sugar measurements were created in response to this need (See Appendix H). The “Sugar handout” was distributed to students during the lesson activity. Students appeared to share information they learned in class with parents. In addition to handouts parents received weekly, students were given a “homework assignment” to ask their parents if they knew how many grams of sugar were contained in one teaspoon.

Most of the students felt comfortable performing physical activity in class. Three students did not want to take part in physical activity sessions and were not required to do so. The DNP

student asked students about their perceptions of creating a personal physical activity exercise plan. Students were asked, if comfortable, to demonstrate their physical activity plan. Most students not only wanted to share, but kept asking to do it on an ongoing basis. Students who refused to participate in planned exercises chose exercises they would like to incorporate in their future personal exercise plan when/if they wished to start. The personal exercise plan served as the reinforcement of daily structured physical activity lesson for those students who participated. It also aligned with the purpose of the project – to increase students' confidence in their ability to live healthy lifestyles, and in particular, to teach them how to take what they learned about physical activity in class to the home setting. Also, the personalized physical activity plan, demonstrated by students who felt confident performing physical activity in front of other students, served as a vicarious and verbal persuasion experience for those three students who only observed physical activity.

Evaluation of Project's Outcomes

There were two objectives for this project. The first outcome was to increase the students' confidence in their ability to live healthy lifestyles (nutrition, physical activity, and screen time) using handouts, lessons, class activities, education for parents about healthy lifestyles; and demonstration of moderate to vigorous physical activity exercises. The second outcome was to improve the after school program's offering via implementation of structured physical activity and health education and to determine the acceptability and sustainability of the program. The evaluation of the project's two outcomes was accomplished via student surveys and interviews, and via open-ended questions with students, parents, the organization's volunteers, the high school student volunteer, and the director of the program.

The outcomes for the first objective of the project, to increase students' confidence in ability to live healthy lifestyles, particularly nutrition, physical activity, and screen time, were measured via surveys. The pre-and post-surveys were administered to students during the first week and last week lessons. The DNP student was responsible for data collection and assisted students with questions related to the surveys. Students completed the same surveys at the beginning and end of the project. There were sixteen students who completed surveys in the beginning of the project and fourteen at the end of the project (two students stopped attending the project). The DNP student was available at the after school program for additional time to administer post surveys to four students who were absent during the last class.

The second outcome – to improve the after school program via implementation of structured physical activity and health education, and determine project's acceptability and sustainability by students, parents, and the afterschool program's staff— was measured via open-ended questions designed by the DNP student (See Appendix K). There were separate questions for students, parents, volunteers and the honor roll student, and the organization/director.

Students' Outcomes

The first outcome – students' healthy lifestyles were measured via analysis of pre- and post-surveys administered to students (Appendix J). Students' surveys contained basic demographic information such as birthday, number of sisters and brothers, gender, and racial background, for the purpose of matching the pre- and post-surveys. Students were asked to answer behavioral questions based on their activities the day prior to the day the survey was administered. The students' survey questions were related to the variables of interest: screen time (TV, video games, and phone/tablet/computer use), physical activity (light, moderate and vigorous physical activity), and nutrition (fruits and vegetables and carbonated drinks intake).

There were a total of twelve attendance days. Each attendance session counted as 60 minutes. The project’s attendance was the following. The two students who stopped attending were present for 5 of 12, and 7 of 12 sessions. There were four students who attended all sessions, three students who attended eleven sessions, three students who attended ten sessions, three students attended nine sessions, and one student attended eight sessions. Fourteen participants completed pre-and- post project implementation survey (Tables 2, 3 and 4 represent pre- and post-survey data reported by students). Two students participated in the first half of the project and completed only the pre test surveys. The details of pre- implementation survey for those two participants (student 15 and 16) are also presented in Tables 2, 3, and 4. The decision not to conduct statistical tests was made based on a small sample size (n =14) and the small differences between the beginning and end of the project.

Table 2

Individual Student’s Reported Changes in Physical Activity (N= 16)

		Variable					
		PA House		PA Moderate		PA Vigourous	
		Pre	Post	Pre	Post	Pre	Post
Student	**1**	≤ 30	0	≤ 30	0	≤ 30	0
Student	**2**	0	≤ 30	0	≤ 30	0	≤ 30
Student	**3**	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
Student	**4**	≤ 15	≤ 30	≤ 15	≤ 30	≤ 15	≤ 30
Student	**5**	≤ 15	≤ 30	≤ 15	≤ 30	≤ 15	≤ 30
Student	**6**	≤ 45	≤ 60	≤ 45	≤ 60	≤ 45	≤ 60
Student	**7**	0	≤ 45	0	≤ 45	0	≤ 45
Student	**8**	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
Student	**9**	≤ 0	0	≤ 0	0	≤ 0	0
Student	**10**	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30
Student	**11**	≤ 30	≤ 45	≤ 30	≤ 45	≤ 30	≤ 45
Student	**12**	≤ 45	≤ 45	≤ 45	≤ 45	≤ 45	≤ 45
Student	**13**	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60
Student	**14**	≤ 30	≤ 15	≤ 30	≤ 15	30	≤ 15
Student	**15**	0		0		0	
Student	**16**	≤ 30		≤ 15		≤ 30	

Most students reported small positive changes– an increase in PA level of 15-30 minutes (Table 2). There were two students who reported an increase of PA level to 45-75 minutes (students 8 and 13). While the desirable trend was the reduction of screen time, especially if reported >120 minutes, there were several students who reported an increase in screen time (Table 3). The screen time viewing reported by students did not change much. Moreover, many students reported unchanged pre survey screen time for all screen time categories. Many students reported increased screen time viewing: ten of fourteen students reported increased TV viewing; six of fourteen increased time playing video games; and nine of fourteen reported increased cell

Table 3

Individual Student's Reported Changes in Screen Time (N= 16)

		Variable					
		ST Video		ST TV		ST Cell Phone	
		Pre	Post	Pre	Post	Pre	Post
Student	**1**	≤ 15	≤ 30	0	≤ 15	≤ 30	≤ 30
Student	**2**	≤ 30	≤ 75	≤ 45	0	≤ 120	≤ 30
Student	**3**	≤ 30	≤ 30	≤ 30	≤ 15	≤ 30	≤ 30
Student	**4**	≤ 45	≤ 45	≤ 15	≤ 30	≤ 15	≤ 30
Student	**5**	≤ 30	≤ 30	≤ 120	≤ 105	≤ 120	≤ 120
Student	**6**	≤ 30	≤ 30	≤ 15	≤ 15	≤ 30	≤ 30
Student	**7**	≤ 105	≤ 75	≤ 15	≤ 15	≤ 60	≤ 30
Student	**8**	≤ 15	≤ 15	≤ 15	≤ 15	≤ 30	≤ 15
Student	**9**	≤ 30	≤ 30	0	0	≤ 45	≤ 45
Student	**10**	≤ 45	≤ 45	≤ 120	≤ 105	≤ 120	≤ 120
Student	**11**	≤ 60	≤ 60	0	0	≤ 15	≤ 15
Student	**12**	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
Student	**13**	≤ 15	≤ 15	≤ 30	≤ 15	≤ 75	≤ 75
Student	**14**	≤ 15	≤ 45	≤ 75	0	≤ 120	≤ 30
Student	**15**	≤ 105		≤ 15		≤ 120	
Student	**16**	≤ 15		0		≤ 15	

phone use. There were three students (student 7, 8, and 13) who reported a 15-30 minute decrease in at least one of the three screen time categories (TV, video, and cell). There were also three students who reduced screen time use from >120 minutes to less than two hours (students 2, 13, and 14).

Table 4

Individual Student's Reported Changes in Nutrition (N= 16)

		Variable			
		Fruits and Vegetables		Sugary Drinks	
		Pre	Post	Pre	Post
Student	1	2	5	1	2
Student	2	1	3	4	1
Student	3	3	3	1	2
Student	4	5	5	5	0
Student	5	0	1	0	0
Student	6	5	5	2	2
Student	7	1	3	2	0
Student	8	3	4	0	0
Student	9	3	3	0	0
Student	10	1	2	2	2
Student	11	1	2	0	0
Student	12	0	4	0	0
Student	13	2	3	1	1
Student	14	3	3	3	1
Student	15	0		2	
Student	16	5		2	

The project's target for fruit and vegetable consumption aligned with the American Academy of Pediatric guidelines to consume five or more daily servings of fruits and vegetables per day. Nine of fourteen students reported an increase from one, to at least three daily servings of fruits and vegetables per day (students 1, 2, 5, 7, 8, 10, 11, 12, and 13). Student 1 reported an increase in three or more servings of fruits and vegetables per day. A decrease in number of carbonated/sugary drinks, ideally to zero, was the desirable outcome. Eight students reported consumption of sugary drinks during pre- and post- survey that were unchanged. Interestingly, those students did not report more than two drinks per day at either pre- or post-surveys. Moreover, five out of those eight students reported consuming no sugary drinks (students 5, 8, 9, 11, and 12).

Individual participants' responses were grouped based on physical activity, screen time, fruits and vegetables, and sugary drinks consumption. Figures 4, 5 and 6 represent the number of students in each category who reported changes in the targeted behaviors.

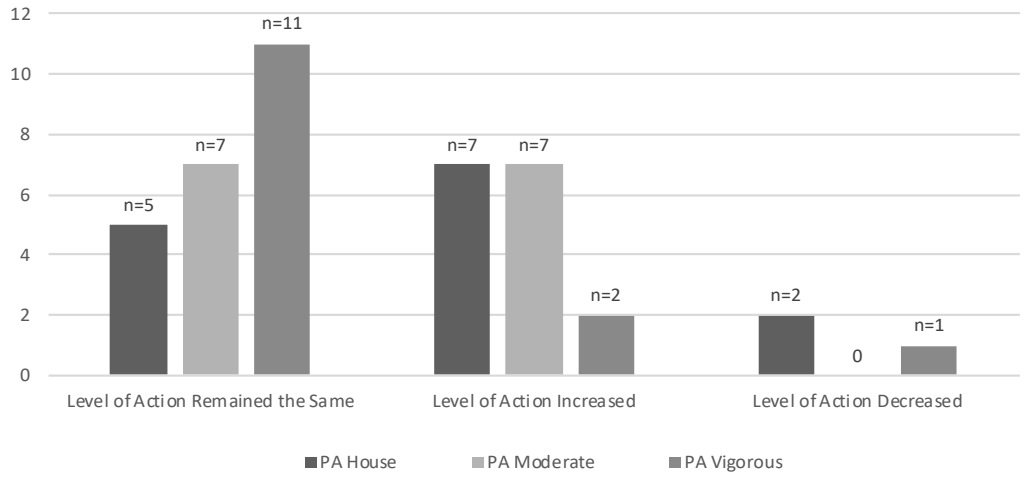

Figure 4. Students’ Reported Changes in Physical Activity (N= 14)

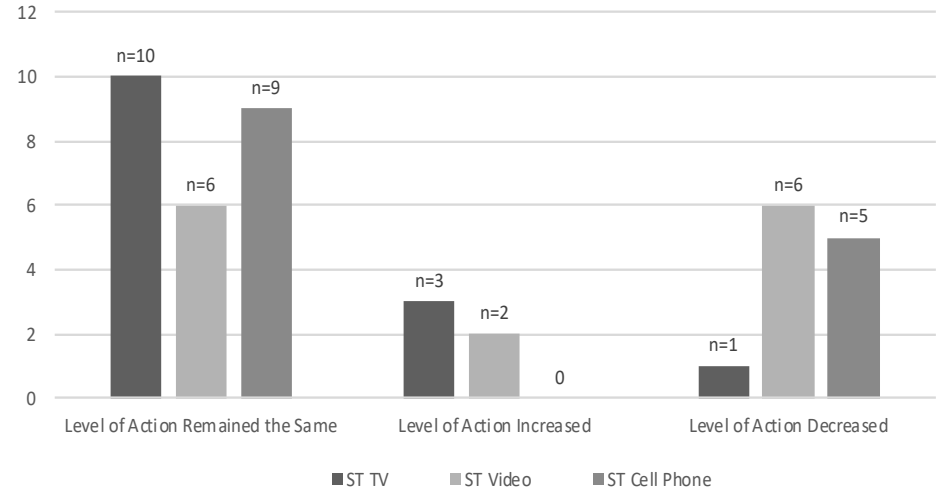

Figure 5. Students’ Reported Changes in Screen Time (N =14)

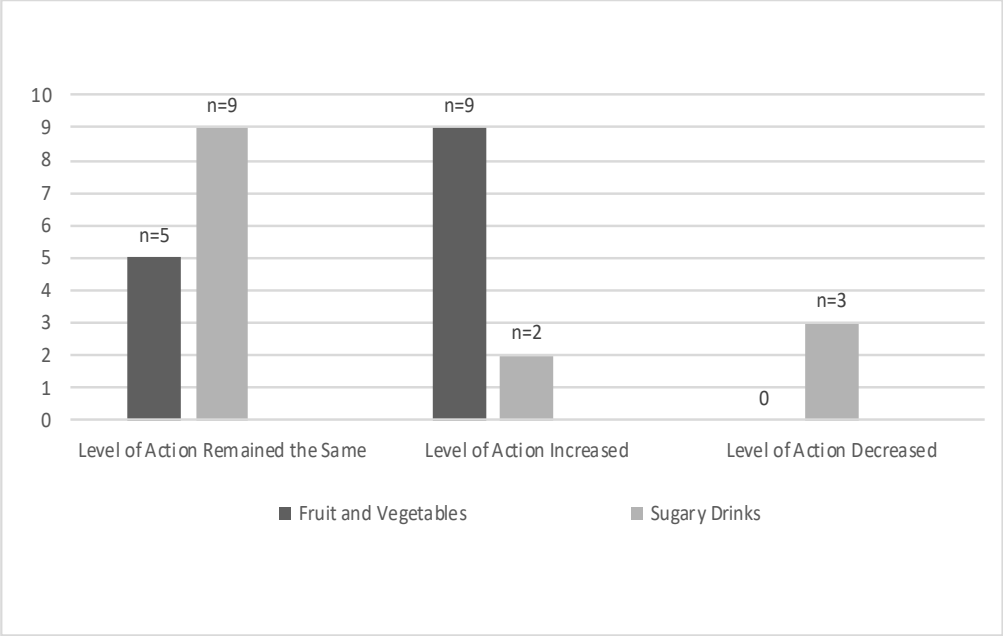

Figure 6. Students’ Reported Changes in Nutrition Behaviors (N=14)

The outcomes for the first project objective – to increase students’ confidence in ability to live healthy lifestyles was achieved (Tables 2, 3, & 4; Figures 4, 5, & 6). In several studies in the literature review, it was noted that it takes time to change lifestyle habits. In those studies, interventions found to be the most effective in reduction of screen time and improved nutrition and physical activity, lasted three months to a year, and had reinforcement sessions to ensure sustainability of the results (Ezendam et al., 2015; Jago et al., 2013). The intention of this project was to introduce students to healthier lifestyles and show them alternatives to sedentary lifestyles (screen time) in the form of physical activity. A significant improvement of students’ physical activity levels, nutrition, and decreased screen time use within six weeks was not anticipated. The slight improvement and positive change was considered a success. Students reported a 50% increase in house and moderate PA, and a slight increase in a vigorous PA; a 43% decrease in ST video, and 35.7% decrease in ST cell use; and a 64.3% increase in fruit and vegetable

consumption. The student's increased confidence in healthy lifestyles was also demonstrated in their comments during the post-implementation round table (Table 5).

Table 5

Student Comments About What They Learned

Learning activity	Student Comments (verbatim as stated by students)
Physical Activity	"3 flights of stairs every day"; "rake leaves"; "shovel the snow"; "running around the house after my brother because I am hyper"; "be more outside"; "cleaning my room is also exercise"; "to exercise every day"
Screen Time	"that electronics is not good for you"; "not to use phone all the time"; "I learned how bad is electronics for you to stay on for so long"
Nutrition	"that too many calories is bad for you and that food that tastes good is bad for you and has many calories"; "add caramel and peanut butter to apples and ranch dressing to carrots"; "measuring sugar"; "reading nutrition labels"; "making healthy snacks packets"; "that caramel has too much sugar"; "that fruits and vegetables have healthy sugar"; "hydrated and eating healthy is important"; "How much sugar can be in some foods"; "I learned how to make healthy snacks which has less sugar when there is no fruits and vegetables at home"
Miscellaneous	"healthy lifestyles, exercise, and eating fruits and veggies"; "eating healthy, working out"; "healthy lifestyle, enough sleep"; "do what mom says"; "How much sugar can be in some foods"; "when we talk about things"; "when we share stories"; "things about 5-2-1-0"

The second project outcome to improve the after school program's quality, by implementing a health program and determining the project's acceptability by students, parents, and the afterschool program's staff, was measured via interviews. Students (n = 10 during the last health lesson and n = 4 two days following the project) answered the following questions during a round table discussion: Did you like/enjoy the activities in the "Let's Move Away From Screen" project? If so, what activities? Would you like to have the project run again? What was the best

thing you learned? What was the thing you learned that you liked the least? (See Appendix K). All students answered that they would like the project to be implemented again. Most students answered that nutrition lessons and activities ("Sugar project", and "Healthy snacks") were identified as the most effective elements of the project. All students answered that having healthy snacks was one of the best parts of the project. Most students identified structured physical activity as the least desirable. However, the "Personal exercise plan" was identified as one of the most favored activities. Students spoke about the helpfulness of alternatives for physical activity, suggested by the DNP student, when trying to come up with a personal physical activity exercise plan. Some students suggested that using Wii and Xbox could be a good idea for physical activity in the after school program.

Parents' Outcomes

The DNP student was available during dismissal 1-2 times during the week following the project to get feedback from parents about the project. Parents were asked questions on the last week of the project during participant students' dismissal. Parents were asked several simple opened-ended questions (See Appendix K). The DNP student interviewed parents about the benefits from the project, particularly what was learned from handouts. The interview was based on three questions: Did you receive the handouts? Were they helpful? What was the most helpful hint from the handouts? (See Appendix K).

There were five parents interviewed. Nine parents were unavailable during students' dismissal (students were picked up by either grandparents or older siblings). Out of five parents interviewed, four parents were rushed and could not talk, but were able to briefly answer questions related to the project. Overall, parents stated that they received, on average, three to five handouts and those "were colorful and had good information." There were only two students

who remembered to ask their parents questions about the amount of sugar grams in the teaspoon. According to students' answers, neither of the parents knew how many grams of sugar were in the teaspoon. Parents' comments are presented in the following table (See Table 6).

Table 6

Parents' Comments (n =5)

Activity	Parent comments
Nutrition	"handout helped to understand the amount of sugar in processed food" Most helpful handouts: "Healthy Snack Ideas" and "Healthy Shopping on a Budget" "Sugar handout" (was not a parents' handout information) "was very interesting"
Screen Time	"I understand it is an issue but not sure how to fix it" "My daughter was bullied via Facebook and we took her phone away" There were two parents who stated that they were surprised that screen time reduction can prevent obesity and increase academic performance.

Volunteers' Outcomes

The DNP student interviewed the honor society student volunteer during the last health lesson. The information related to this interview is presented in Table 7. Organizational volunteers were interviewed during the last day when they helped with the project. The information from the organizational volunteers' interview is presented in Table 8. The second outcome for the project was met. It was determined that "Let's Move Away From Screen" was fairly well accepted by students, parents, volunteers, and the organization. The director asked if the project could be implemented again. Also, the director invited a reporter from a local newspaper to capture health education in the after school program. Students who participated in

Table 7

Comments from Student Volunteer (n = 1)

Question	Student Response
1. Did you like helping with the project?	"Definitely, I liked to help you"; Student brought her classmate to observe the and see if she wanted to help in the future projects
2. Would you like to help with the project again?	"I would like to teach lessons if you give me handouts"; Student asked me to email her regarding future projects to earn more community service hours
3. What worked best for this project?	"discussion/reinforcement sessions"; "also class projects"
4. What needed improvement?	"I think project could last longer, if we had more time, instead of 30 minutes, one hour for each class"
5. What should be taken out of the project?	"I think we should have physical activity one time per week and classes twice per week"

the article had consents for photography signed by their parents for the after school program. The article was published in the local newspaper. Also, the director of the after school program updated parents about the project and its progress on a weekly basis via their Facebook page. Students asked the DNP student about when the next session would be. Organizational volunteers liked to help with the project. In addition to helpful handouts, parents appreciated the opportunity for additional learning for their child/children outside the school hours.

Table 8

Comments from Organizational Volunteers and Director (n= 3)

Question	Volunteer comments
1. Did you like helping with the project? Would you like to help with project again?	"Yes, it was fun"; "I would like to help again! When is the next session?" One of the volunteers stated that it would be nice to have project on an ongoing basis.
2. What worked best for this project (activities, exercise, or handouts)?	"Lessons worked the best"
3. What needed improvement?	"Scheduling of the project. You moved project start many times" (director)
4. What should be taken out of the project?	"less physical activity, more education"

Suggestions for Change and Sustainability

A project's sustainability is a legacy of a DNP project. The sustainability of the project stems from the importance of the entire project process of accurately determining all aspects of an organizational assessment (stakeholders, barriers and facilitators) and the organization's readiness for change. Applying an evidence-based intervention involved not only researching the best evidence, but also adapting it to organizational needs and resources. If the project is sustainable, more new students will be exposed to health education, extra physical activity, and receive additional education on screen time when entering the after school program. The project gained popularity among students and the organization. The after school director approached the DNP student to express that the project was well received by students and staff. He expressed interest in continuation of the project and gave verbal permission for the project's

reimplementation in any of the three ways described below: volunteers from organization, DNP student(s), or by collaborating with the other organizations that implement projects in the after school program.

The high school student who volunteered with project implementation was identified as the leader who can carry on the intervention processes and lessons. The organization's staff and volunteers can replicate the project or its parts without extra training. This can be accomplished with the materials left by the DNP student. The staff and volunteers can replicate educational sessions and the majority of exercises. The DNP student contacted GVSU faculty regarding the potential reimplementation of the project by another DNP student enrolled in the pediatric track. Also, much of the health education was reflected on the handouts distributed to students and their parents. The after school program has access to free printing through one of the businesses involved in the organization's annual fundraising event.

Regardless of how the project will be replicated and/or implemented, building a trusting relationship with the after school director, school's principal, and students' parents are key factors to sustainability of this project. High school honor society students can continue to earn their service hours by helping with the project's ongoing implementation. Using the organization's Facebook page updates about the program and continuous communication with parents via Facebook will contribute to the project's sustainability within the organization. The project's lessons and handouts are available for the organization for programs in the future.

The project's potential for sustainability can be projected via comparison of PARiHS' elements (evidence, context, and facilitation) before and after the project's implementation. All three elements were assessed as lying on the medium to high continua before the project's implementation. The evidence was located on a moderate continuum because screen time is a

relatively new phenomenon. Although the evidence on screen time alone was inconclusive, evidence on screen time reduction when targeting obesity prevention was fairly strong. The assumption that context was on a high to moderate level of the continuum was made by the DNP student based on the high acceptability of the project by the organization and its stakeholders. The DNP student located facilitation on the high continuum based on the feedback from the director, students and parents, and volunteers. The facilitation was set up for the project with an idea of "enabling others" at the end of the project while "doing for others" throughout the project. This was accomplished by involvement of an honor society student. The DNP student was teaching the student and organizational volunteers during the project's implementation and hoped that they would be able to implement the project on their own in the future. Another factor contributing to high context and facilitation is the opportunity to incorporate the "Let's Move Away From Screen" health nutrition component into another organization's project.

Implications for Practice

As a result of completing this project, several suggestions for practice with children and their families became evident. Entering an agency and identifying a project that the agency wants is one of the first requirements. Once a project is identified, using evidence to find the best project is important. Once the intervention with the best evidence is located, flexibility to make changes to fit the agency is essential. Working with parents as well as their children is important, challenging, and requires flexibility and creativity. Partnering with other organizations to continue implementing the project ensures a project's sustainability.

The first major implication for this project was entering the agency. Even though the school-based health center needs assessment had identified screen time as a concern, finding the right place to implement the project within the school system was a challenge. Several activities

were required to find the right place in the agency. These activities were the following: multiple meetings with the manager of the school-based health center, attending school board meetings, finding the after school program and presenting the project, multiple meetings related to the project flow, attending after school's annual fundraising event, and maintaining ongoing relationship with the after school program, public school (superintendent and her assistant), and the school-based health center. Detailed organizational assessment of the after-school program presented in the SWOT analysis was necessary for a feasible project plan and project's success.

The second major implication is the need to find the evidence-based intervention that suits the agency. A nurse practitioner can serve as a consultant on how to choose the best available evidence-based knowledge and tailor it to an after school program's needs. Through the literature review DNP student identified the screen time is a new phenomenon, which can be addressed similar to obesity. With this knowledge, the DNP student developed strategies as a researcher particularly to choose the clinical evidence, evaluate the project, and make recommendations for practice. The DNP student developed and adjusted evaluation tools to measure the project's outcomes within a quality improvement design.

The third major implication is flexibility fitting the intervention to the agency without losing the basic structure. For children, in particular, finding ways to engage them is important. It is important to adjust health education content to children's level of education, ability to learn, gaps in knowledge, and fitness level. Students' learning is dependent on their baseline attitudes and knowledge towards changing behavior related to nutrition, physical activity, and screen time. Facilitating self-efficacy for the children is dependent on their cognitive and personal factors as well as providing role models, practice, and encouragement. This was accomplished by adding

extra teaching sessions and activities related to counting carbohydrates and measuring sugar content in grams. Observation of the students' ability to perform physical activity led the DNP student to substitute part of the physical activity component with personalized physical activity plans. This change was necessary to engage those students who were not physically fit and/or did not have interest in physical activity. Behavior change does not happen quickly and is a lengthy process; even a small positive change is considered to be a success. Students who are more confident in their abilities to live healthy lifestyles can role model those behaviors during project.

The fourth major implication is related to difficulty the information to parents. It was particularly challenging to engage parents and families in a community where many parents work. The majority of parents had very limited time for education and some had no time at all. The project's evaluation indicated that it is not effective for students to be responsible for delivering handouts to parents. When possible it is recommended for nurse practitioners in schools and clinics who are responsible for health education to approach parents individually. With an individual approach, a pediatric nurse practitioner (PNP) or registered nurse will be able to assist parents to understand major highlights of the handout. In addition, this direct contact of clinician with a parent is an opportunity to assess parents' baseline knowledge about healthy lifestyles. With this assessment, the clinician has an opportunity to assess parental observations and/or perceptions of their child's health behaviors and create goals for improvement.

A stepwise approach when working on primary prevention with students and their parents in the community setting is the project's fifth implication for practice. First, assess students' and parents' baseline, then provide health education based on the gaps in knowledge and/or behaviors, and lastly provide reinforcement of the information learned. It might take years for a child, adolescent, or parent to finally start applying concepts learned through these "5-2-1-0"

messages. Reinforcement of information learned in different settings is a key to behavior change and may serve as a turning point when some parents and their children decide to start and/or continue to participate in the behavior change. Exposure to "Let's Go!" and its "5-2-1-0" message in several settings, for instance the after school program and school-based health center, might serve as a reinforcement of the information. The "5-2-1-0" message is currently used in many primary care practices, mainly in the form of a handout or two to three sentence summary of the "5-2-1-0" concept, when educating adolescents and their parents or guardians. The project's results, "Let's Go!" handbook, and handouts were left in the school-based health center for educational use with adolescents and parents during health wellness exams and sports physicals.

Finally, the last implication for practice is the project's sustainability through forming coalitions to enhance health goals for adolescents. Involvement of PNPs and registered nurses in primary care prevention for child and adolescent health is invaluable, because they are experts in primary prevention education and are in prime positions to educate students. Forming relationships with organizations, hospitals, businesses, and foundations, which believe in a program's potential for success is essential. The advanced practice nurse has opportunities to create coalitions consisting of the after school program, school-based health center, and organizations networking with the after school program. Collaboration with the school-based health center and school nurses who have the necessary qualifications to conduct lessons utilizing the "Let's Go!" program handouts is particularly important when educating students on health promotion in a community setting such as after school program.

Reflection on the DNP *Essentials*

The American Association of Colleges of Nursing (AACN, 2006) recommended eight *Essentials* as a fulfillment for the advanced nursing practice degree. These *Essentials* were issued in the document *"The Essentials of Doctoral Education for Advanced Nursing Practice*"(AACN, 2006). The degree of mastery for each of the *Essentials* follows.

Essential I: Scientific Underpinning for Practice

According to the DNP *Essentials* the scientific foundation of nursing practice includes both natural and social sciences such as the science of complex organizational structures (AACN, 2006). Nursing practice has its own adequate body of knowledge to be integrated into science with psychosocial, biophysical, psychological, analytical, and organizational sciences. Scientific underpinnings for nursing practice are guided by the integration of nursing knowledge from all the disciplines as the basis for the highest level of nursing practice (AACN, 2006). Choosing the theoretical framework for the project was quite a challenge due to the possibility of applying at least three middle range nursing theories.

Social cognitive theory and self-efficacy theory were chosen to guide the project because behavior change can be better predicted if analyzed from psychosocial, psychological, and social sciences perspectives. Appropriateness of the social cognitive theory and self-efficacy application as a theoretical framework for the project was evaluated. Children were provided with many opportunities to observe, participate, and practice skills. Students were performing physical activity and mastered their skills by observational learning. Students were encouraged to participate in a variety of physical activities during the after-school program and at home.

The decision to choose the PARiHS framework for implementation of the project was based on its proven success to apply the different levels of research into practice (Kitson, Harvey

& McCormack, 2008). The PARiHS framework was chosen because it helps to predict the sustainability of the implemented evidence into the organization using the continuum concept of three elements: evidence, context, and facilitation. All three elements of PARiHS framework- evidence, context, and facilitation were judged to be on the medium to high continua for this project. After the project implementation, the evidence and context were still on the medium continua, but facilitation moved to high.

Essential II: Organizational and System Leadership for Quality Improvement and Systems Thinking

Organizational leadership was one of the most prominent competencies. Multiple emails were sent to the director of the after school center, manager of the school-based health center and committee members. Those activities helped to understand the hierarchy of the organization and how important it was to contact people in the right order. Understanding the organization ensures a smooth process of project planning. I attended meetings for providers within the parent organization of the school-based health center as well as the school-based health center's meetings. I learned that it is a big organization and things can easily get missed or miscommunicated. It is more difficult to communicate issues, or propose change. I learned that in order to implement any change within an organization this change should be viewed as desirable and needed by the organization. While reviewing my proposal with a manager of the health center I learned that the proposal should be viewed as valuable by both me and the other party. I attended Toastmasters meetings to master my public speaking skills. Overall, I practiced my communication skills especially when talking in front of many people.

Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

A comprehensive literature review served as a learning process for the DNP student. I learned how to weigh different levels of evidence to be able to create a project suitable for a specific population and its needs. It was challenging to find effective interventions targeting screen time reduction among children. First, meta-analyses and systematic reviews were explored. Secondly, randomized clinical trials were added to the research. In addition, I was able to explain the relationship of obesity and screen time and apply obesity interventions to screen time interventions. Also, both single and multicomponent interventions were researched. The student was able to choose the most suitable multicomponent intervention based on the organizational assessment and its needs. Lastly, I was able to extract an intervention component to fit the organization's population.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

Ironically, a project targeting screen time reduction among students of school age did not support significant demonstration of this *Essential* from the perspective of information systems and/or patient care technology. However, the DNP student researched technologies students use for recreation, academics or health. A detailed report of technology pros and cons was produced. Also, an in-depth literature search on technology, its effects on student's health, and, particularly, its excess was completed. The DNP student incorporated the current guidelines for children's technology use. Also, technologies were used for the project's data analysis.

Essential V: Health Care Policy for Advocacy in Health Care

This DNP *Essential* was addressed before the other *Essentials* during the second year of the program. Initially, the student wanted to implement a project on policy change. The DNP

student examined policies related to health curricula and technologies in public schools and then reviewed policies related to technology use by students during school time in several schools. There was no policy related to screen time use and/or technology use in any of the schools. Moreover, schools implemented policies related to passwords and privacy related to technology use, but did not mention anything about AAP guidelines. As a future pediatric nurse practitioner whose main interest is prevention in primary care, the student was passionate about policy change. The student spent a year learning steps for policy change and discovered that the first step for policy change is to communicate the issues needed to be addressed in a policy. Thus, the student decided to address the issues of excessive screen time use in the after school program via the "Let's Move Away From Screen" project, which brought policy issues to a local level.

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes.

This *Essential* was identified by the DNP student as one of the most important competencies for the project's success. As mentioned during review of *Essential* II, the DNP student had multiple in-person meetings, emails, and phone calls with the organizational representatives such as the after school manager, school's superintendent, superintendent's assistant, and teachers. The student attended school board meetings twice and learned that it is important to highlight important and useful points, so the other parties can see the benefit for the project to move forward. I networked with parents and a few teachers. Several emails were sent to the superintendent's assistant to discuss the importance of the screen time issues. The DNP student learned that change takes time. It is difficult to implement a change or project while being an outsider in an organization and I learned that being passionate and patient about the issue opens doors to numerous opportunities. A possible health concern– excessive screen

time— was presented and communicated to educators in a professional way by describing pros and cons of screen time. Also, the student completed a project proposal and proposed a project team to implement the project within the organization.

Essentials VII and VIII: Clinical Prevention and Population Health for Improving the Nation's Health and Advanced Practice Nursing

This project and the immersion hours preceding the project helped the DNP student to master the *Essentials* concerned with population health and advanced practice nursing. The project was mostly concentrated on these last two DNP Essentials. The "Let's Move Away From Screen" project helped the DNP student to develop skills in education and teaching children about healthy lifestyles. Students' education at school is similar to reaching out to parents and students at the primary care office. The outcome of the implementation of this project was directed at making a positive impact on population health. This project helped the DNP student extend her health education skills, which are necessary when working with children and adolescents in the primary care setting.

Plans for Dissemination of Outcomes

End users of this project's findings will be GVSU, local public schools, the organization, and possibly "Let's Go" founders. The project's results were shared with the organization and school-based health center. The organization shared the project's results with parents via the organization's Facebook page. In accordance with the director's request, the reporter from the local newspaper wrote an article about the project and published it in the local newspaper. The school-based health center will use confidential project data as a fulfillment for its grant requirement to sustain the school-based health center. The DNP student will share personal contact information with informal professional networks. This project's findings will be

disseminated during the project defense and will be published on GVSU Scholar Works. It is also possible that the project will be published in journals. The suitable journals for the project's publication are: *Journal of Physical Activity and Health, Obesity Research and Clinical Practice*, *Academic Pediatrics, Medicine and Science in Sports and Exercise, Pediatric Exercise Science*, and *Childhood Obesity*.

Lessons Learned

First of all, health education is a learned skill – the more time spent educating students, the better educator you become. It is important to have one's own style and health education curriculum. Health education and the physical activity intervention taught to students attending this after school program can easily be applied in the primary care setting. "Let's Go" and its "5-2-1-0" can be applied to different groups of students after adjusting the discussion content to the setting and children's age, and accommodating to students' levels of understanding. The "Let's Move Away From Screen" project served as a pilot for health education within groups of students. Every age group has it own approaches to learning. What is common sense to adults with a high health literacy is not common sense to children who just started learning about health and its application in their lives. "Let's Move Away From Screen" not only improved the after school programs' quality time, but served as a template for the DNP student's future health education of pediatric patients, particularly in the child and adolescent group.

Another important thing to consider is the facilitator role that the DNP student fulfilled for the project. Having organizational volunteers and a high school student volunteer can be beneficial, but is also challenging. While being involved in helping the DNP student, the volunteer student attempted to take a role of facilitator and became involved in conversations/ debates with students. It was challenging for the DNP student to interrupt the volunteer student at

these times in order to avoid discouraging future volunteering. Organizational volunteers also were learners. For example, a retired adult volunteer who is diabetic was asking questions related to sugar intake and diet during the health lesson related to nutrition.

The consistency of the self-efficacy theory was traced throughout the project. Students' expected outcomes (nutrition, physical activity, and screen time) were influenced by perceived self-efficacy (ability to perform task) and self-efficacy judgment. Some students already knew much of the information related to healthy life-styles and already tried to follow 5-2-1-0. Those students already had a plan for physical activity, which they tried to follow at home. The DNP student observed differences in the abilities to perform physical activity between the group of students who did not exercise at home and those who did. There was an improvement in physical activity performance (increased self-efficacy) observed by the DNP student during class among students who reported that they did not exercise before the program. The DNP student concluded that this slight improvement in students' behavior might be attributed to learning through observation of their peers. Also, the DNP student made this assumption because it is not uncommon that this age group is influenced more by their peers than parents, educators, or healthcare professionals (Maniccia et al., 2014; Wahi et al., 2011; Wu et al., 2016). Regardless of the education (verbal persuasion) provided by the DNP student, students needed to see that what was discussed during the health lesson was valued by peers.

Another lesson learned while working with preadolescents/adolescents is that students are motivated to learn, if the topic interests them. Students loved the "sugar project" and reading labels activity. They loved to share stories and talk, but did not like organized physical activity. It is possible that some students were uncomfortable to exercise in front of their peers. Students who were professionally involved in sports such as gymnastics or dance were more comfortable

to model physical activities in front of the class. Again, self-efficacy played a key role in students' ability to perform.

Students loved snacks! It would be helpful to obtain funding for the project. A variety of healthy snacks would attract more students and might ensure consistent attendance. Also, the availability of quality snacks during the project can build students' self-efficacy to eat healthy foods, particularly through vicarious experiences, verbal persuasion, and physiological state. Students are competitive – they like to turn discussions into debates. There was a debate during the project lesson about cell phones. Students knew that they could not use cell phones during the after school program but still tried to use them. The parents' financial situation was the main reason for a student not having a cell phone. All students identified a smartphone/Iphone as a "must have" device.

The high school student volunteer was very helpful. She managed students' behavior during lessons and helped participants with projects. In addition to helping with the project implementation, the volunteer educated students on proper behavior during class time. She asked several students to put their phones away. She told them that it was disrespectful to the project leader and that it was an after school policy not to use cell phones during the program's hours. Student participants did not want to comply initially, but then complied with the request. As an outsider from the organization, the DNP student wanted to make sure not to overstep the boundaries with discipline to ensure students' attendance. However, adequate discipline and being fully present was necessary for successful project implementation. As dictated in the consent agreement signed by students and parents, students could stop attending the project at any time. Having a high school student volunteer and organizational volunteers who could be direct with students eliminated the risk of tension between the DNP student and participants.

Barriers/Limitations

Barriers for the project implementation were mainly rooted in scheduling the project and making up several missed days. Days for project implementation were limited to two days per week. This was attributed to another program being added to the after school program and the DNP student being unaware of the schedule change. This was attributed to the fact that DNP pushed the project implementation date to the end of October instead of early September. The delay in project was caused by the processes of writing, defending, and obtaining approval for the project. Also, the project could not be implemented several days after the project was approved. This was a result of "no school" days due to parent teacher conferences and teacher development days.

There were several limitations/barriers of the project methodology. First, data collection was based on self-reported information – surveys, interviews, and discussions. At times it was difficult to stay within the planned lesson content. Two health lessons were modified because students expressed interest in learning more about nutrition, particularly sugar content in foods. Also, students asked many questions and distracted lessons with questions and side-discussions during class.

Another barrier to the project implementation was the lack of financial support for the project. The financial support of the project is important to consider when it comes to its sustainability. Kelder et al. (2013) pointed out that adequate funding is an integral component of the project's sustainability. The researchers recommended promoting family fun nights for raising funds and increasing awareness about a program's needs. Newsletters/parents'/teachers' handouts about a program is another way to increase awareness about the program and attract stakeholder's interest (Kelder et al., 2013). For example, in this project students loved healthy

snacks. Often, students were waiting for the snacks and many students were seen taking more snacks than they needed and storing them in their backpacks. If there was external funding, more snacks could have been purchased for students to take home. The snacks were paid for from the DNP student’s own funds. Take-home healthy snacks could have served as an incentive for participation. Also, having more snacks could possibly increase students’ attendance. This conclusion is made based on observation.

Implementing physical activity was challenging because students had different abilities for physical activity. Students who were not enrolled in any sports activities named art as a sport. For example, there were two students who attended dance and gymnastics since kindergarten. Those students exhibited a higher level of self-efficacy than those who did not exercise on a regular basis. A personal exercise plan was suggested by the DNP student as a response to observed students’ capabilities and interest to exercise. The variability in students’ physical activity level, an initial barrier, was used to adjust physical activity lessons to the students’ and organization’s needs.

Conclusions

The “Let’s Move Away From Screen” project was successfully piloted in one of the West Michigan after school programs. The project’s main purpose was to decrease recreational screen time. The purpose was achieved by meeting the following project’s objectives. The first objective was to increase students’ confidence in ability to live healthy lifestyles (nutrition, physical activity, and screen time) via handouts, lessons, class activities, education for parents about healthy lifestyles, and demonstration of moderate to vigorous physical activity exercises. The second objective was to improve the after school program via implementation of structured physical activity and health education and determine the project’s acceptability to and

sustainability for students, parents, and the after school program’s staff. Based on outcomes measured in this project its objectives were met. The first outcome – students’ healthy lifestyles (physical activity, nutrition, and screen time) – was measured via analysis of pre- and post-surveys administered to students. Overall, students reported health behaviors were improved. The second project outcome was to improve the after school program’s quality by implementing a health program, and to determine the project’s acceptability to and sustainability for students, parents, and the afterschool program’s staff. This was measured via interviews. The project was well received by students, parents, volunteers, and the director. Based on the evaluation of the project’s acceptability in the organization and interviews with volunteers it is feasible to sustain the project within organization.

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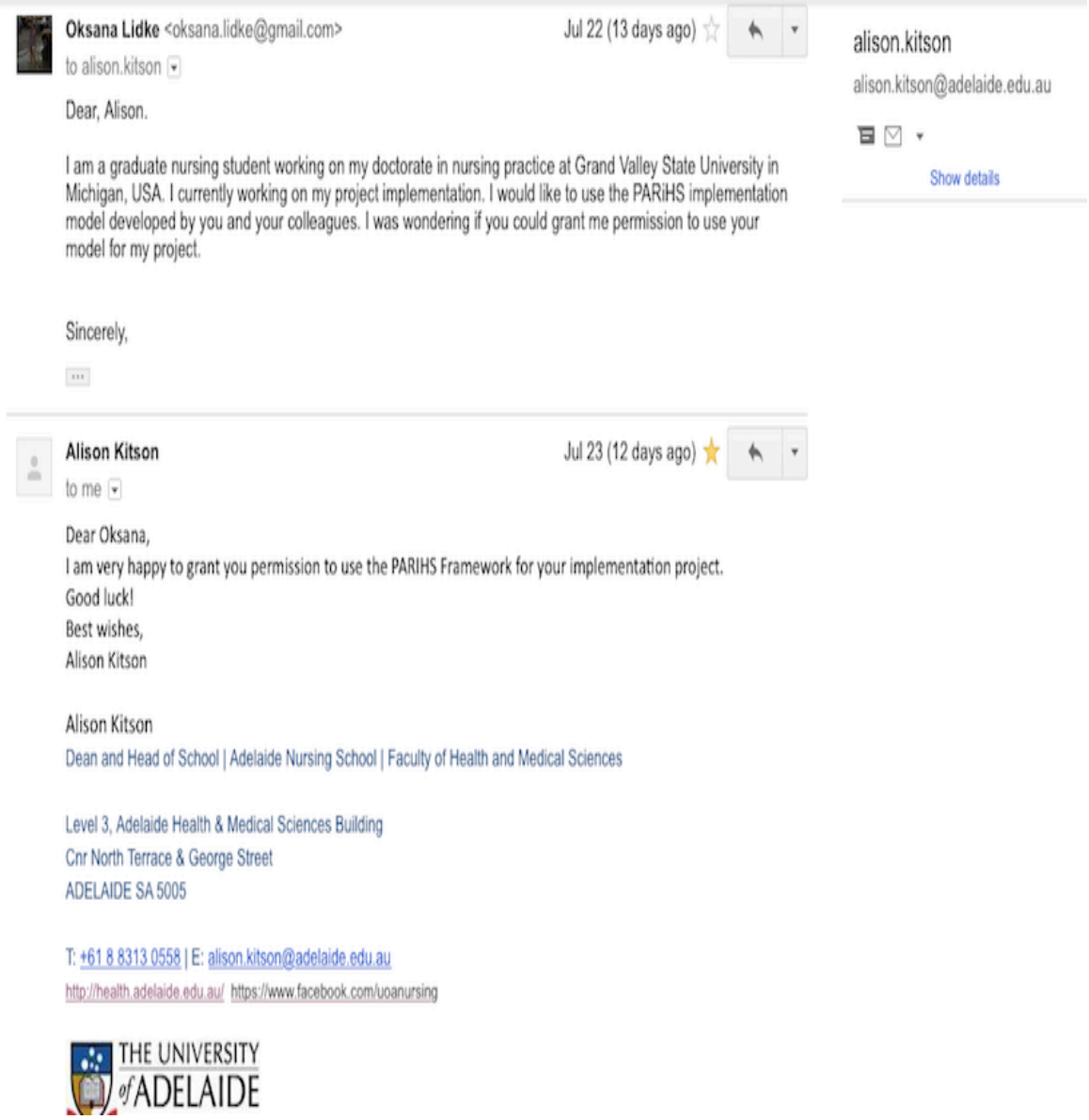
Appendix A: Permission for PARiHS Framework



Oksana Lidke <oksana.lidke@gmail.com> Jul 22 (13 days ago)

to alison.kitson

Dear, Alison.

I am a graduate nursing student working on my doctorate in nursing practice at Grand Valley State University in Michigan, USA. I currently working on my project implementation. I would like to use the PARiHS implementation model developed by you and your colleagues. I was wondering if you could grant me permission to use your model for my project.

Sincerely,

alison.kitson
alison.kitson@adelaide.edu.au
Show details

Alison Kitson Jul 23 (12 days ago)

to me

Dear Oksana,
I am very happy to grant you permission to use the PARIHS Framework for your implementation project.
Good luck!
Best wishes,
Alison Kitson

Alison Kitson
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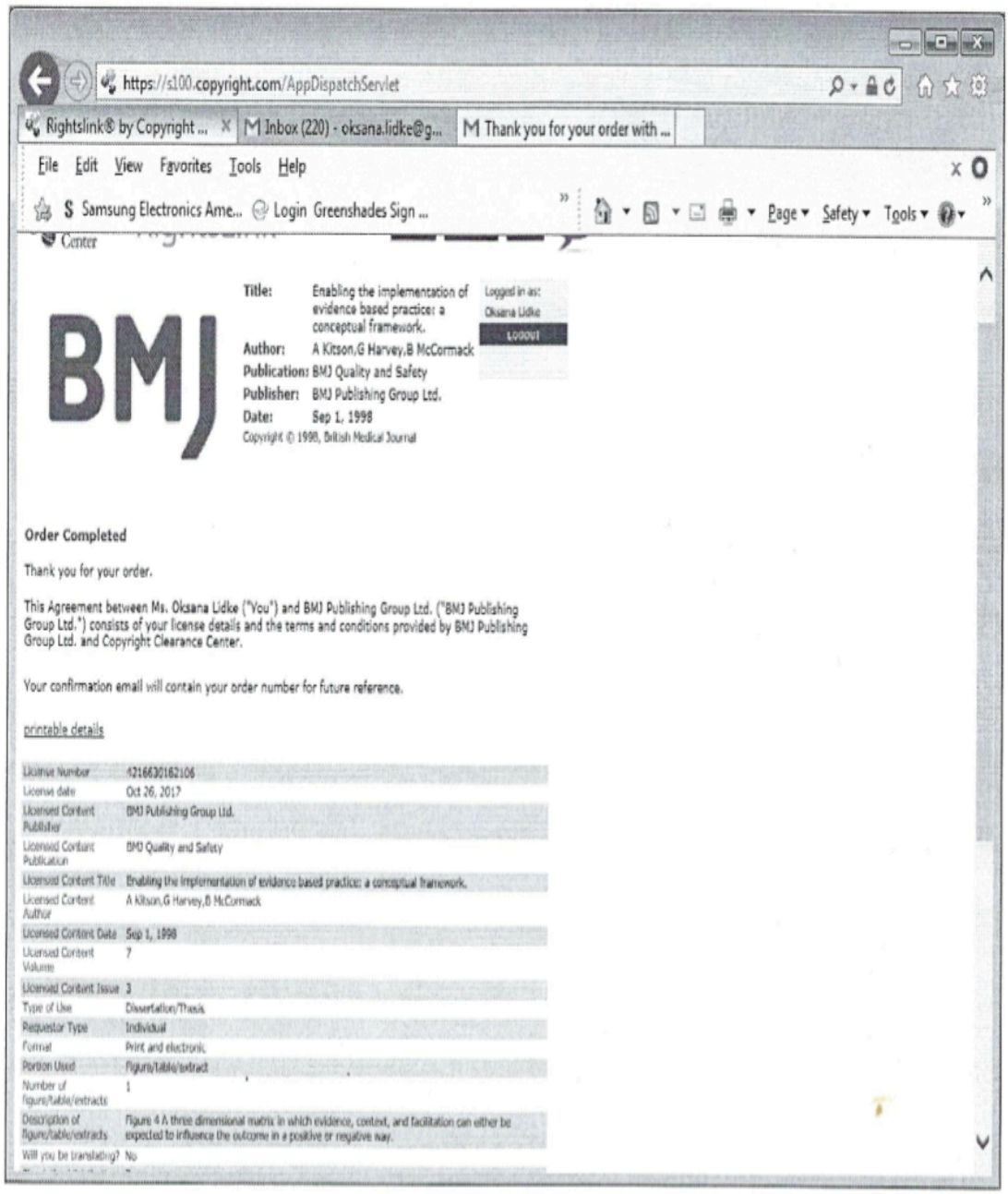

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Licensed Content Title	Enabling the implementation of evidence based practice: a conceptual framework.
Licensed Content Author	A Kitson,G Harvey,B McCormack
Licensed Content Date	Sep 1, 1998
Licensed Content Volume	7
Licensed Content Issue	3
Type of Use	Dissertation/Thesis
Requestor Type	Individual
Format	Print and electronic
Portion Used	Figure/table/extract
Number of figure/table/extracts	1
Description of figure/table/extracts	Figure 4 A three dimensional matrix in which evidence, context, and facilitation can either be expected to influence the outcome in a positive or negative way.
Will you be translating?	No

Appendix B: PARiHS Framework

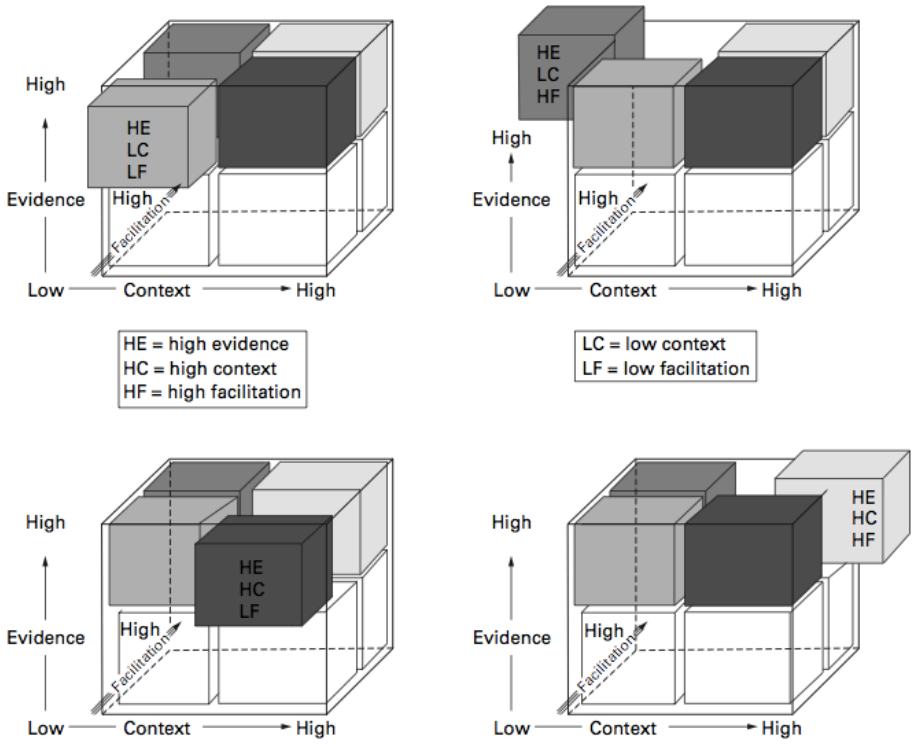


Figure . PARiHS Framework. From “Enabling the implementation of evidence based practice: A conceptual framework,” by Kitson, Harvey, & McCormack, 1998, *Quality in Health Care, 7,* p. 149-158. Reprinted with permission from Alison Kitson. Copyright 1998 by the British Medical Journal.

Appendix C: SWOT Analysis

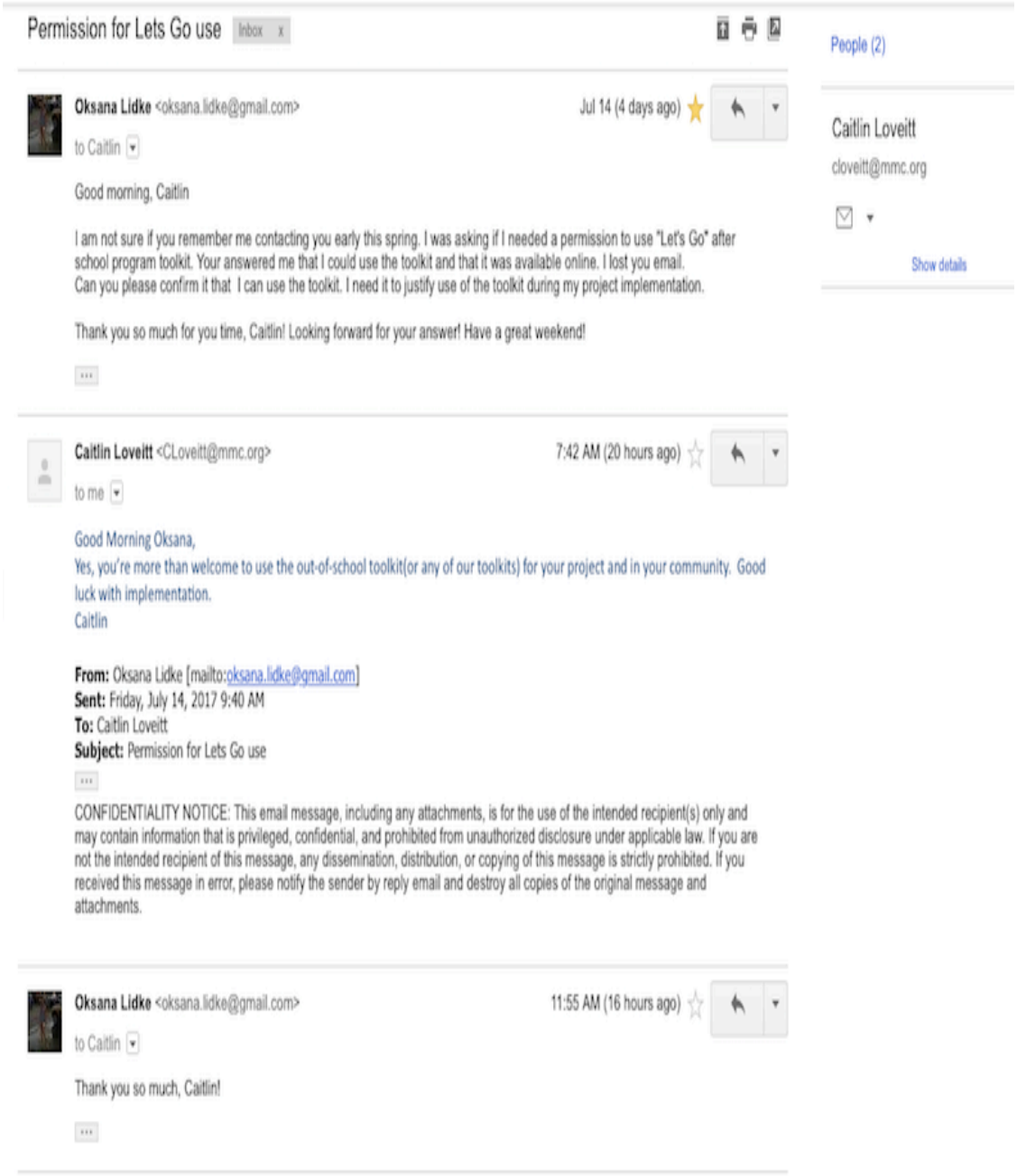
SWOT ANALYSIS BEFORE PROJECT DATE: July, 2017

	POSITIVE	NEGATIVE
INTERNAL	**STRENGTH** ❖ Collaboration and support from public schools leadership ❖ Strong support from community ❖ Strong support from stakeholders: Primary care services Local Health and Human Services representative School-based health center ❖ Physical activity incorporated into the schedule ❖ Policy related to electronic use during program	**WEAKNESS:** ❖ Lack of supportive home environment for many students ❖ Low parental educational attainment ❖ Low parental health literacy ❖ Many children have behavioral problem ❖ No structured physical activity
EXTERNAL	**OPPORTUNITIES:** ❖ Projects offered by stakeholders: school services network (KSSN), school-based health center, GVSU DNP students ❖ Involvement of high school honor society students from school's district to assist with project implementation and maintain project's sustainability	**THREATS:** ❖ Economic factors: loss of funding for after school during annual fundraiser, if after school does not provide curriculum well perceived by students ❖ Loss of support from public schools ❖ Area economy

SWOT ANALYSIS AFTER PROJECT_DATE: JANUARY 2018

	POSITIVE	NEGATIVE
INTERNAL	STRENGTH ❖ Collaboration and support from public schools leadership ❖ Strong support from community ❖ Strong support from stakeholders: School-based health center Organizations volunteering – implementing free programs ❖ **Time allotted to physical activity and health classes** ❖ **Gym, classroom, and equipment available** ❖ Policy related to electronic use during program	WEAKNESS: ❖ Lack of supportive home environment for many students ❖ Low parental educational attainment ❖ Low parental health literacy ❖ Many children have behavioral problem ❖ Not structured physical activity ❖ **Different programs adding up to after school program on a short notice**
EXTERNAL	OPPORTUNITIES: ❖ Projects offered by stakeholders provide collaboration opportunity for project implementation ❖ Involvement of high school honor society students from school district to assist with project implementation and maintain project's sustainability	THREATS: ❖ Economic factors: loss of funding for after school during annual fundraiser, if after school's curriculum is not well perceived by students and parents ❖ Loss of public schools support

Appendix D: Permission Use for "Let's Go!"



Permission for Lets Go use Inbox x

Oksana Lidke <oksana.lidke@gmail.com> Jul 14 (4 days ago)

to Caitlin

Good morning, Caitlin

I am not sure if you remember me contacting you early this spring. I was asking if I needed a permission to use "Let's Go" after school program toolkit. Your answered me that I could use the toolkit and that it was available online. I lost you email.
Can you please confirm it that I can use the toolkit. I need it to justify use of the toolkit during my project implementation.

Thank you so much for you time, Caitlin! Looking forward for your answer! Have a great weekend!

Caitlin Loveitt <CLoveitt@mmc.org> 7:42 AM (20 hours ago)

to me

Good Morning Oksana,
Yes, you're more than welcome to use the out-of-school toolkit(or any of our toolkits) for your project and in your community. Good luck with implementation.
Caitlin

From: Oksana Lidke [mailto:oksana.lidke@gmail.com]
Sent: Friday, July 14, 2017 9:40 AM
To: Caitlin Loveitt
Subject: Permission for Lets Go use

CONFIDENTIALITY NOTICE: This email message, including any attachments, is for the use of the intended recipient(s) only and may contain information that is privileged, confidential, and prohibited from unauthorized disclosure under applicable law. If you are not the intended recipient of this message, any dissemination, distribution, or copying of this message is strictly prohibited. If you received this message in error, please notify the sender by reply email and destroy all copies of the original message and attachments.

Oksana Lidke <oksana.lidke@gmail.com> 11:55 AM (16 hours ago)

to Caitlin

Thank you so much, Caitlin!

People (2)

Caitlin Loveitt
cloveitt@mmc.org

Show details

Appendix E: Schedule of Dates and Times

	Date	**Day of the week**	**Time**	**Health lesson**	**Time**	**Physical Activity**
Week 1	November 8th	Wednesday	2.45p.m.	X	3.15 p.m.	X
	November 9th	Thursday	3.15 p.m.	x	2.45 p.m.	X
Week 2	November 13th	Monday	2.45p.m.	x	3.15 p.m.	X
	November 16th	Thursday	3.15 p.m.	X	2.45 p.m.	X
Week 3	November 20th	Monday	2.45p.m.	X	3.15 p.m.	X
	November 27th	Monday	3.15 p.m.	X	2.45 p.m.	X
Week 4	November 30th	Thursday	2.45p.m.	X	3.15 p.m.	X
	December 4th	Monday	3.15 p.m.	X	2.45 p.m.	X
Week 5	December 7th	Thursday	2.45p.m.	X	3.15 p.m.	X
	December 11th	Monday	3.15 p.m.	X	2.45 p.m.	X
Week 6	December 14th	Thursday	2.45p.m.	X	3.15 p.m.	X
	December 18st	Monday	3.15 p.m.	x	2.45 p.m.	X

Appendix F: Organizational Permission for Project Implementation

Permission to Conduct Project "Let's Move Away From Screen"

07/27/2017

Mr. Craig Owens
Director of [redacted]

Dear Mr. Owens:

I am writing to request permission to conduct a quality improvement project at [redacted] based on the evidence-based intervention "Let's Go". I am currently enrolled at Grand Valley State University and in the process of implementing the quality improvement project based on students' health needs.

Project's Purpose and Objectives

The purpose of this quality improvement project is to promote students' and their parents' learning about healthy lifestyles with a major intention to decrease their recreational screen time.

The objectives of the project are the following:

1. Provide students and their parents education on healthy lifestyles including screen time via handouts, lessons, and class activities.
2. Demonstrate to students moderate to vigorous physical activity exercises.
3. Provide students with 30 minutes of physical activity twice per week.
4. Provide students with opportunities to master healthy lifestyles by engaging them in participation in class activities and physical activity.
5. Monitor students' progress via surveys and screen time log monitor.
6. Monitor parents' progress via surveys about their children's daily screen time habits and physical activity.

I hope that you will allow me to recruit minimum of 20 students attending 6th or 7th grade regardless of gender and at least one parent per student. Students and their parents will sign consent for voluntary participation (copy enclosed). The participants can withdraw from the project at any time. The participants will complete surveys and questionnaires. The school facilities that you use will be used to conduct educational interventions and moderate exercise. Should any student have a problem during an exercise activity, the school-based clinic is available to assist with this project. Further En Gedi's staff will be asked questions regarding program implementation for feedback. The survey results will be pooled for the thesis project and individual results will remain absolutely confidential and anonymous. Should this project be published, only pooled results will be documented. No costs will be incurred by either En Gedi or individual participants.

Your approval to conduct this project will be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions that you may have at this time. You may contact me at my email address: lidkeo@mail.gvsu.edu

If you agree, kindly sign below. Alternatively, kindly submit a signed letter of permission on your institution's letterhead acknowledging your consent and permission for me to conduct this survey/project at you institution.

Sincerely,

Oksana Lidke DNP student RN, BSN
Grand Valley State University

Approved by:

Print your name and title here Craig T. Owens, Director

Signature

Date: 8/8/2017

Appendix G: Approved Project Plan

	Week 1	Week 2	Week 3	Week 4
Activities	Recruitment of students, volunteers, honor roll students for project. • DNP student will sit at a table at the entrance to EnGedi and will talk to students, parents, and volunteers about the project. • Resources needed: Consent forms for volunteers and for participants (parents and child), recruitment flyer and/or letter to parents • Powerpoint running at entrance **Consents for participation: parents who consent their children to participate in the project will sign the consent.**	**Monday 2.45 pm- 3. 00 pm** Pre implementation surveys for students **Monday: 3.00 pm- 3. 30 pm** health lesson **Lesson 1: Introduction** 1. "Let's Move Away From Screen" project introduction to students 2. Introduce 5-2-1-0 concepts: physical activity, nutrition, and screen time components 3. Introduce "Let's Go!" definitions **4.** Handouts to students **(See Appendix L Lesson V)** **Tuesday: 2.45 pm- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix L Lesson V)** **Thursday 2.45- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix L Lesson V)** **3.15- 3.30 –** Health lesson reinforcement Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson I)**	**Monday: 2.45 pm- 3.15 pm** health lesson **Lesson II Objectives:** 1. Describe a healthy diet and food choices, and explain why such choices will help prevent health problems. 2. Introduce the concept of food labels. 3. Discuss importance of breakfast. **4.** Discuss healthy portions **(See Appendix L for details)** **Monday: 3.15 pm- 4 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **Thursday: 2.45 pm- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **3.15- 3.30 –** Health lesson reinforcement Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson II)**	**Monday 2.45 pm- 3. 15 pm** health lesson **Lesson III Objectives:** 1. Introduce ideas for healthy snacks "on the go" 2. Discuss how to make healthy choices if time is limited, limited resources, etc. 3. Discuss seasonal fruits and vegetables. 4. Group activity: will make healthy snacks during class time (fruit cuts, low sodium crackers, carrots, etc. **(See Appendix L for details)** **Monday 3.15 pm- 4 pm** Physical activity based on "Let's Go" (See Appendix V) **Thursday: 2.45 pm-3.15 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **3.15- 3.30 –** Health lesson reinforcement Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson III)**

Screen Time	The concept of screen time particularly less than 2 hours per day will be introduced during the first health lesson and will be reinforced during every health lesson.	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**
Measures		**Pre-implementation survey distributed for students. DNP student will assist students with questions related to surveys, if clarification needed.**		
Resources needed	1. Permission forms for parents 2. Consent forms for volunteers 3. Handouts about the program 4. Printed powerpoint about the program 5. Letter to parents	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets)**	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets)**	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets)** **3. Resources for group activity: apple cuts, raisins, and sandwich ziplock bags)**

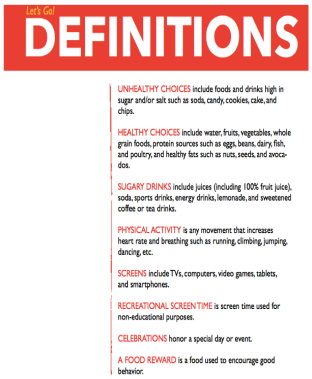
	Week 5	**Week 6**	**Week 7**
Activities	**Monday: 2.45 pm- 3.15 pm** health lesson **LESSON IV: Objectives** 1. Discuss the importance of eliminating sugary drinks from diet 2. Discuss about importance of hydration and drinking adequate amount of water 3. Discuss the amount of sugar in popular drinks/energy drinks 4. Discuss different types of sugar **5.** Group project: make a poster "Sugar Bottle Display" **(See Appendix L Lesson IV)** **Monday: 3.15 pm- 4 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **Thursday 2.45- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix L Lesson V)** **3.15- 3.30 –** Health lesson reinforcement Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson IV)**	**Monday: 2.45 pm- 3.15 pm** health lesson **LESSON V: Objectives** 1. Discuss importance and health benefits of moderate to vigorous physical activity 2. One or more hours of physical activity per day 3. Physical activity as replacement for screen time 4. Physical activity in any type of weather and small spaces 5. Classroom activity: choose your favorite activity **Monday: 3.15 pm- 4 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **Thursday 2.45- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix L Lesson V)** **3.15- 3.30 –** Health lesson reinforcement Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson V)**	**Monday: 2.45 pm- 3.15 pm** health lesson **LESSON VI: Objectives** 1. Discuss importance of limiting recreational screen time to 2 or less hours per day 2. Discuss negative affects of screen time on health and academics 3. Physical activity as an alternative activity for screen time. 4. Round table discussion related to Project' implementation (See questions for post assessment). **Monday: 3.15 pm- 4 pm** Physical activity based on "Let's Go" **(See Appendix Lesson V)** **Tuesday 2.45- 3.15 pm** Physical activity based on "Let's Go" **(See Appendix L Lesson V)** **3.15- 3.30 –** Health lesson reinforcement **Wednesday 2.45 pm- 3.15-** students will fill the post-implementation surveys **Wednesday 3.30-5.30-** A DNP student will interview parents (approach as many parents as possible during the time allotted for pick up/signing off students) A DNP student will interview volunteers and honor roll students regarding project implementation. Parents will receive handout **(See Appendix M)** Students will receive handout **(See Appendix L Lesson VI)**

Screen Time	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**	**Students will be introduced to 5-2-1-0 message:** ▪ **5 or more servings of fruits and vegetables** ▪ **Limit of 2 hours or less recreational screen time** ▪ **Engage in 1 hour or more of physical activity** ▪ **Drink 0 sugary beverages**
Measurements			**Post-implementation survey distributed for students. DNP student will assist students with questions related to surveys as needed. Evaluation questions for student participants, implemented in dyads or triads.** **Evaluation questions for volunteers, parents, and after school program's staff. Separate dyads/triads/groups for each type of participant (parent, volunteer, En Gedi program staff)**
Resources Needed	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets).** **3. Resources for class activity: 2 pounds of sugar and ziplock bags)**	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets).**	**1. Printed handouts** **2. Gym and equipment available (ball, jump ropes, ets).** **3. Post surveys for students** **4. Survey forms for volunteers and honor roll students**

Appendix H: Lessons for Students

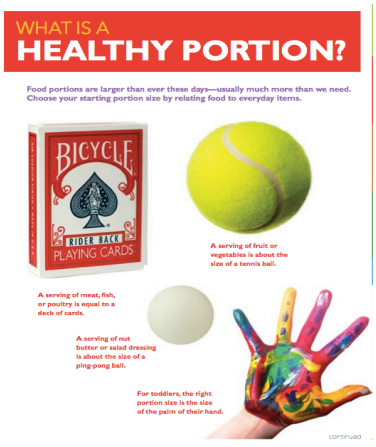
Lesson 1: Introduction

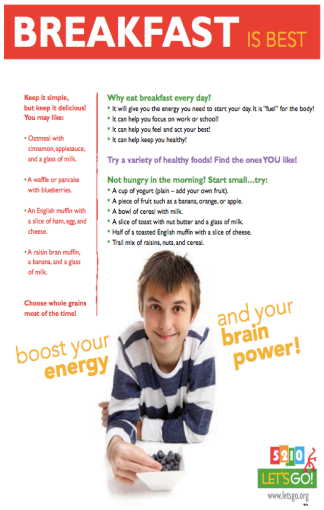
1. “Let’s Move Away From Screen” project introduction to students
2. Introduce 5-2-1-0 concepts: physical activity, nutrition, and screen time components
3. Introduce “Let’s Go!” definitions
4. Handouts to students

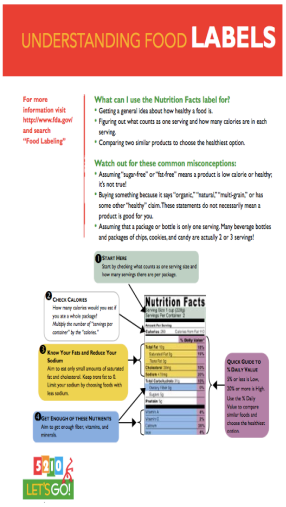


Lesson II Objectives

5. Describe a healthy diet and food choices, and explain why such choices will help prevent health problems.
6. Introduce the concept of food labels.
7. Discuss importance of breakfast.
8. Discuss healthy portions.





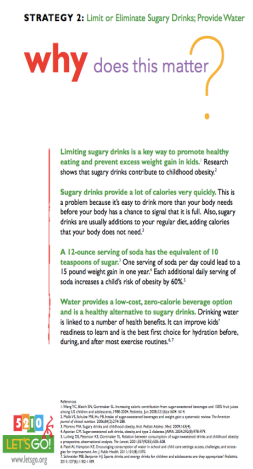


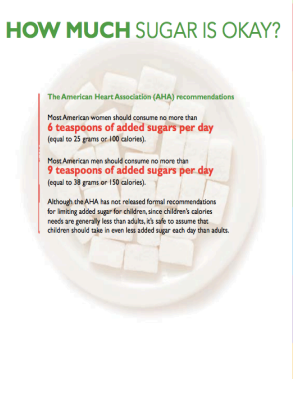
Lesson III Objectives

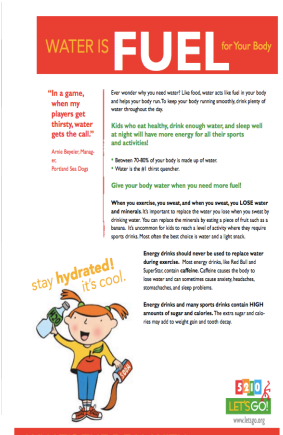
1. Introduce ideas for healthy snacks “on the go”
2. Discuss how to make healthy choices if time is limited, limited resources, etc.
3. Discuss seasonal fruits and vegetables.
4. Group activity: will make healthy snacks during class time (fruit cuts, low sodium crackers, carrots, etc.)

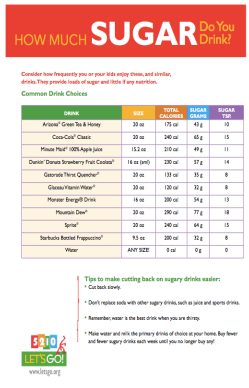
LESSON IV: Objectives

1. Discuss the importance of eliminating sugary drinks from diet
2. Discuss about importance of hydration and drinking adequate amount of water
3. Discuss the amount of sugar in popular drinks/energy drinks
4. Discuss different types of sugar
5. Group project: make a poster “Sugar Bottle Display”



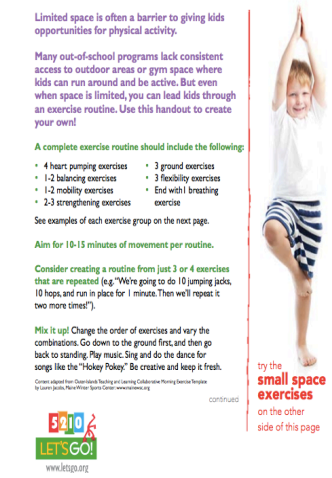


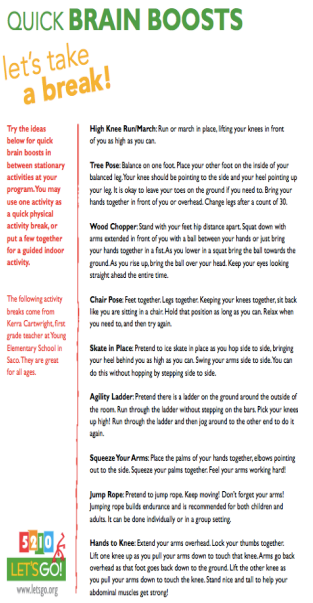


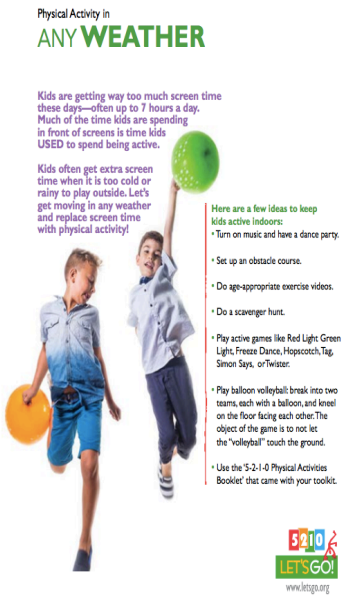


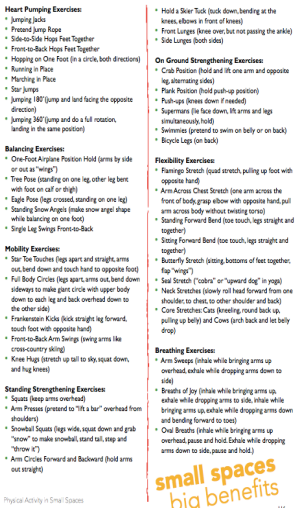
LESSON V: Objectives

1. Discuss importance and health benefits of moderate to vigorous physical activity
2. One or more hours of physical activity per day
3. Physical activity as replacement for screen time
4. Physical activity in any type of weather and small spaces
5. Classroom activity: choose your favorite activity



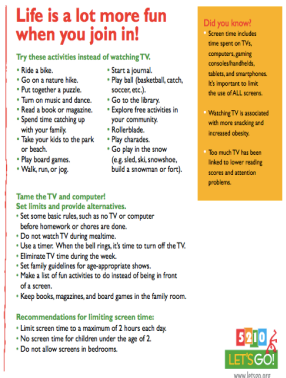


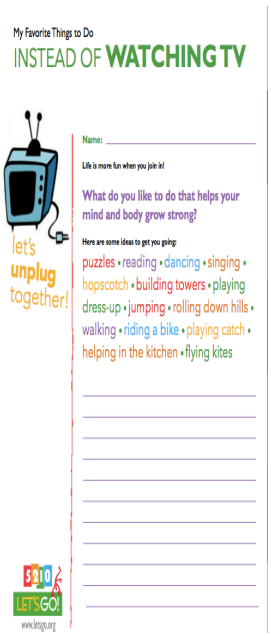


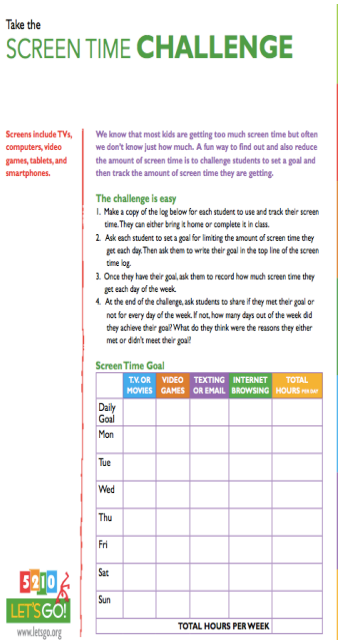


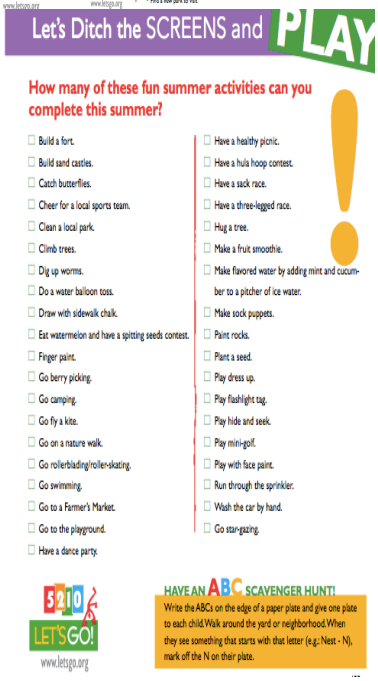
LESSON VI: Objectives

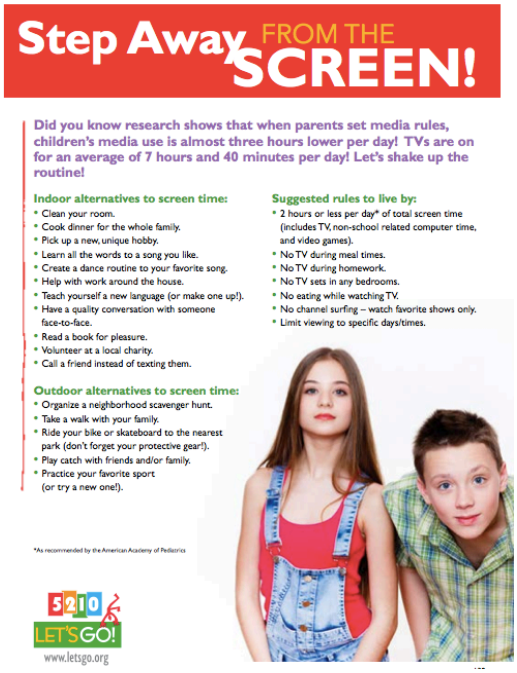
1. Discuss importance of limiting recreational screen time to 2 or less hours per day
2. Discuss negative affects of screen time on health and academics
3. Physical activity as an alternative activity for screen time











SUGAR HANDOUT

Added Sugar – incorporated into a food during preparation or processing
Natural Sugar- naturally occurring in food - milk, fruit, etc… Read your packages and look for sugar!!!

Tablespoon – 12 grams of sugar – 48 calories
1 teaspoon – 4 grams of sugar -16 calories

Yogurt- 2.6 tablespoon or just over 125 calories of sugar
Banana- 16.63 grams or nearly 67 calories DOESN COUNT as an ADDED SUGAR
Recommended to limit intake of added sugar to no more than 150 calories for men and 100 calories for women

Appendix I: Handouts for Parents

Week 1

5-2-1-0 EVERY DAY!

Follow the 5-2-1-0 message to a healthier you!

5 or more fruits & vegetables
- Aim to eat a wide variety of brightly colored fruits and vegetables.
- Fill half of your plate with fruits and/or vegetables.
- Frozen and canned are just as nutritious as fresh.
- Try new fruits and vegetables to discover what you like!

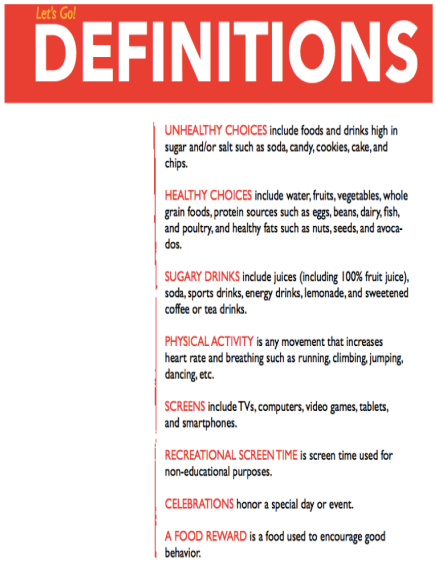
2 hours or less recreational screen time*
- Keep TV and computer out of the bedroom.
- No screen time under the age of 2.
- Turn off screens during meal time.
- Plan ahead for your screen time instead of just turning it on.

1 hour or more of physical activity
- Take a family walk.
- Turn on the music and dance.
- Use the stairs.
- Choose activities that you enjoy!

0 sugary drinks, more water
- Keep sugary drinks out of the grocery cart.
- Drink water when you are thirsty. It's the #1 thirst quencher!
- Keep a water bottle on hand and fill it up throughout the day.
- Put limits on 100% juice.

For more ideas visit www.letsgo.org

5210 LET'S GO! www.letsgo.org



Let's Go!

DEFINITIONS

UNHEALTHY CHOICES include foods and drinks high in sugar and/or salt such as soda, candy, cookies, cake, and chips.

HEALTHY CHOICES include water, fruits, vegetables, whole grain foods, protein sources such as eggs, beans, dairy, fish, and poultry, and healthy fats such as nuts, seeds, and avocados.

SUGARY DRINKS include juices (including 100% fruit juice), soda, sports drinks, energy drinks, lemonade, and sweetened coffee or tea drinks.

PHYSICAL ACTIVITY is any movement that increases heart rate and breathing such as running, climbing, jumping, dancing, etc.

SCREENS include TVs, computers, video games, tablets, and smartphones.

RECREATIONAL SCREEN TIME is screen time used for non-educational purposes.

CELEBRATIONS honor a special day or event.

A FOOD REWARD is a food used to encourage good behavior.

Week 2

Letter to Families

HEALTHY FOODS FOR CELEBRATIONS

Dear Families,

We love to celebrate! Celebrations provide a perfect opportunity to role model how fun and healthy eating go hand-in-hand! As a part of our efforts towards health and wellness, our program is committed to hosting healthy celebrations. If you choose to send in food for a celebration, let's make it count with healthy choices!

Fun, tasty options include:

- **Fruit and Cheese Kabobs** – Put grapes, melons, cheese cubes, and berries onto a wooden kabob stick.
- **Make Your Own Trail Mix** – Provide bags of granola or whole grain dry cereal, dried fruit, and nuts for students to make their own trail mix.
- **Fruit Smoothies** – Show up at snack time with a blender, frozen fruit, and yogurt! (Be sure to make arrangements with us first.)
- **Yogurt Parfaits** – Layer granola, fruit, and yogurt in plastic cups. Send in on a tray covered with plastic wrap; OR send in the ingredients, cups and spoons and let the kids make their own parfaits.
- **Vegetable or Fruit Platters with Dip**

Our efforts are supported by *Let's Go!*, a program at The Barbara Bush Children's Hospital at Maine Medical Center. *Let's Go!* works where children and families live, learn, work, and play to help make the healthy choice the easy choice. *Let's Go!* encourages families to adopt the 5-2-1-0 message:

5 or more fruits & vegetables
2 hours or less recreational screen time*
1 hour or more of physical activity
0 sugary drinks, more water

*Keep TV/Computer out of the bedroom. No screen time under the age of 2.

fun + healthy go hand in hand!

For more information about *Let's Go!*, visit www.letsgo.org. Thank you for joining us in our commitment to healthy kids!

Sincerely,

5210 LET'S GO!

FAMILY STYLE MEALS AND SNACKS

Having kids sit together and serve themselves often leads choosier eaters to be more likely to accept and try new foods!

When you provide food to kids, you have an opportunity to influence their eating behaviors by the types of foods you offer and by how you offer them. Serving family style meals and snacks can create a supportive, encouraging, and healthy mealtime environment that exposes kids to healthy foods and helps kids learn to enjoy them.

What are Family Style Meals and Snacks?

In this style of dining, food is placed on the table in serving bowls and kids are encouraged to serve themselves. Caregivers sit at the table and eat with the kids to help model proper manners.

Why does this matter?

Family style meals help kids develop:
- Self-esteem
- Social skills
- Table manners
- Independence

Tips for successful Family Style Meals and Snacks:
- Let kids help from start to finish. This includes preparing the food, setting the table, serving themselves, and cleaning up.
- Encourage (but never force) kids to take a little of everything. Help them understand appropriate serving sizes.
- Talk about the taste, smell, look, and feel of food. Family style meals are a great time to teach new vocabulary and help kids learn to appreciate and savor their food.
- Keep the conversation light and positive. This keeps the mealtime enjoyable and helps ensure kids will look forward to the next meal together.

5210 LET'S GO!

Week III

Letter to Families

HEALTHY SNACK IDEAS

healthy snacks help kids grow!

Dear Families,

As a part of our efforts towards supporting health and wellness, we encourage kids to bring healthy snacks to our program. Healthy snacks help kids maintain energy throughout the day and help ensure they are ready to learn and play. We want your kids to be the healthiest they can be!

Here are some healthy snack ideas to fuel your kids:

- **Turkey or Ham Roll-Ups:** Sliced turkey or ham rolled up with cheese
- **Snack Kabobs:** Veggie or fruit chunks and cheese cubes skewered onto thin pretzel sticks
- **Cottage Cheese or Yogurt with Fruit and/or Granola:** Try using fresh grapes, frozen berries, or canned peaches or pineapple
- **Crackers with Nut Butter or Hummus**
- **String Cheese**
- **Veggies and Dip**
- **Trail Mix:** Whole grain cereal (e.g. Cheerios, Mini-Wheats, Wheat Chex) mixed with dried fruit (e.g. raisins, cranberries, apricots) and nuts
- **Baked Tortilla Chips with Hummus or Salsa and Guacamole**
- **Fresh Fruit:** Apples, cherries, grapes, bananas, pears, oranges…fruit is nature’s portable, ready-to-eat snack!

Our efforts are supported by *Let’s Go!*, a program at The Barbara Bush Children’s Hospital at Maine Medical Center. *Let’s Go!* works where children and families live, learn, work, and play to help make the healthy choice the easy choice. *Let’s Go!* encourages families to adopt the 5-2-1-0 message:

5 or more fruits & vegetables
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1 hour or more of physical activity
0 sugary drinks, more water

*Keep TV/Computer out of the bedroom. No screen time under the age of 2.

For more information about *Let’s Go!*, visit www.letsgo.org. Thank you for joining us in our commitment to healthy kids!

Sincerely,

5210 LET’SGO! www.letsgo.org

HEALTHY SHOPPING ON A BUDGET

Healthy shopping on a budget takes planning!
Planning helps you SAVE TIME, MONEY, and EAT HEALTHIER.

- **Make a list and stick to it.** Lists help you avoid impulse buys that are usually unhealthy and expensive.
- **Shop mostly the perimeter of the store.** Spend most of your grocery budget on natural foods found around the outside of the store like fruits, vegetables, dairy, and protein foods that are good for your body. Limit your shopping in the middle aisles to staples like pasta, canned tuna, and nut butter, avoiding other expensive processed, and often unhealthy, packaged foods.
- **Shop when you are NOT hungry or stressed.** People who shop when hungry or stressed tend to not only buy MORE food, but also unhealthier food.
- **Compare unit prices. Bigger is not always better!** Use the unit price to compare similar products and make sure you’re getting the best deal. The unit price is the cost per a standard unit (like ounce or pound) and is usually found on a sticker on the shelf beneath the product.
- **Weigh the cost of convenience.** If food tends to rot in your fridge before you prepare it, then you could actually save money by purchasing fresh fruits and veggies that have been washed and chopped for you.
- **Try frozen and canned.** Canned and frozen produce keeps for a long time and may be cheaper per serving than fresh. For frozen, make sure you look for items with no added sauces or sugar. For canned, choose fruit canned in 100% juice and vegetables that are labeled either “low sodium” or “no added salt.”
- **Use store flyers to plan your menu.** Save money by planning your menu around fruits, vegetables and other items that are on sale each week. Save time by already knowing what you are going to make for dinner each night.
- **Try store brands.** Store brands on average are cheaper by about 26% to 28% and their quality usually at least meets, and often surpasses, that of name brand products.
- **Shop in season.** Buying fruits and vegetables in season generally means your food not only tastes better, but is more nutritious and affordable.
- **Buy in bulk when foods are on sale.** Frozen and canned produce, and some fresh items like apples and carrots, will last a long time. If you have the storage space, stock up on the foods you eat regularly when they are on sale to save some

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Week IV

STRATEGY 2: Limit or Eliminate Sugary Drinks; Provide Water

Letter to Families

LIMIT SUGARY DRINKS SENT IN FROM HOME

Water is the best thirst quencher

Dear Families,

As part of our efforts to support healthy kids, we encourage kids and families to limit sugary drinks brought in from home. Water is the best thirst quencher. We want your kids to be the healthiest they can be!

Here are some tips to limit sugary drinks and make water more appealing:

- **Flavor water with fresh squeezed fruit.** Try traditional lemon, lime, or orange wedges or experiment with things like melon, berries, and kiwi.
- **Try flavored, unsweetened seltzer water.** It’s fizzy and tastes good so is a great substitute for soda.
- **Choose whole fruit instead of juice.** If you do provide juice, choose only 100% juice and keep the servings small.
  - No more than 4-6 ounces per day for children age 6 years and younger.
  - No more than 8-12 ounces per day for children age 7 years and older.

Our efforts are supported by *Let’s Go!*, a program of The Barbara Bush Children’s Hospital at Maine Medical Center. *Let’s Go!* works where children and families live, learn, work, and play to help make the healthy choice the easy choice. *Let’s Go!* encourages families to adopt the 5-2-1-0 message:

5 or more fruits & vegetables
2 hours or less recreational screen time*
1 hour or more of physical activity
0 sugary drinks, more water

*Keep TV/Computer out of the bedroom. No screen time under the age of 2.

For more information about *Let’s Go!*, visit www.letsgo.org. Thank you for joining us in our commitment to healthy kids!

Sincerely,

5210 LET’SGO! www.letsgo.org

why does this matter?

Limiting sugary drinks is a key way to promote healthy eating and prevent excess weight gain in kids.[1] Research shows that sugary drinks contribute to childhood obesity.[2]

Sugary drinks provide a lot of calories very quickly. This is a problem because it’s easy to drink more than your body needs before your body has a chance to signal that it is full. Also, sugary drinks are usually additions to your regular diet, adding calories that your body does not need.[3]

A 12-ounce serving of soda has the equivalent of 10 teaspoons of sugar.[3] One serving of soda per day could lead to a 15 pound weight gain in one year.[4] Each additional daily serving of soda increases a child’s risk of obesity by 60%.[5]

Water provides a low-cost, zero-calorie beverage option and is a healthy alternative to sugary drinks. Drinking water is linked to a number of health benefits. It can improve kids’ readiness to learn and is the best first choice for hydration before, during, and after most exercise routines.[6,7]

References
1. Wang YC, Bleich SN, Gortmaker SL. Increasing caloric contribution from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004. Pediatrics. Jun 2008;121(6):e1604-14.
2. Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. The American journal of clinical nutrition. 2006;84(2):274-288.
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4. Apovian CM. Sugar-sweetened soft drinks, obesity and type 2 diabetes. JAMA. 2004;292(8):978-979.
5. Ludwig DS, Peterson KE, Gortmaker SL. Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. The Lancet. 2001;357(9255):505-508.
6. Patel AI, Hampton KE. Encouraging consumption of water in school and child care settings: access, challenges, and strategies for improvement. Am J Public Health. 2011;101(8):1370.
7. Schneider MB, Benjamin HJ. Sports drinks and energy drinks for children and adolescents: are they appropriate? Pediatrics. 2011;127(6):1182-1189.

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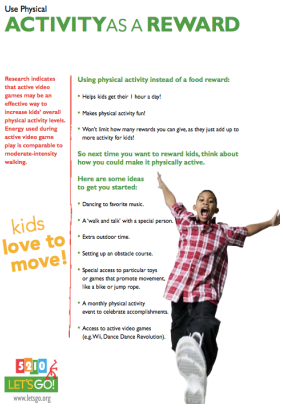
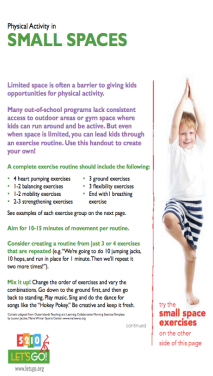
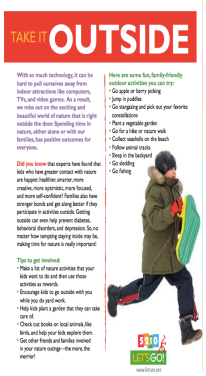
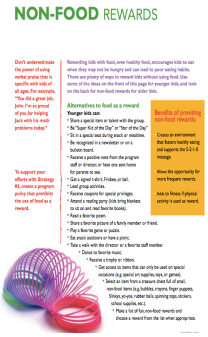
Week V

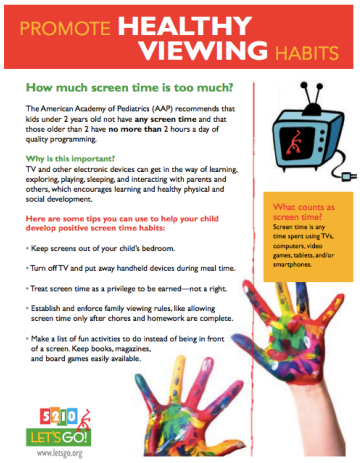








Week VI



Appendix J: Survey for Students

Yesterday was (circle):
Sunday Monday Tuesday Wednesday Thursday Friday Saturday

1. What year were you born? _____
2. When is your birthday? _____
3. How many sisters and stepsisters do you have?

   _____
4. How many brothers or stepbrothers do you have?

   _____
5. What grade are you in? _____
6. Are you male or female? (Circle one)
7. What is your ethnic or racial background? (Circle all that apply)

   White/Caucasian Mexican/other Latino African American Asian Native American Other

1. Physical Activity

Did you do any activity yesterday?
No If NO, go to the next page
Yes If yes, please put checkmarks in the appropriate box (activities you did, how long you did each of them?

	0- 15 mins	**16- 30 mins**	**31-45 mins**	**46 mins- 1 hour**	**1 hour to 1 hour and 30 mins**	**1 hour and 30 mins to 2 hours**	**More than 2 hours**
Light housework (cleaning the room, washing dishes, vacuuming, dusting, etc.)							
Moderate physical activity (walking, playing with frisbee, tag, playing outside, etc).							
Vigorous physical activity (soccer, swimming, running, bicycling, roller blading, etc.)							

Total Physical Activity (Project team use only)

_____

2. Nutrition

Check the number of fruits and vegetables you had yesterday

Check the box for the number of sugary/carbonated drinks you had yesterday

	0	1	2	3	4	5	More than 5
Fruits and vegetables							
Sugary/carbonated drinks (like pop, soda, koolaids, energy drinks, Gatorade)							

3. Screen Time

Please check the box for the time you spent in each activity

	0- 15 mins	16- 30 mins	31-45 mins	46 mins- 1 hour	1 hour to one hour and 30 mins	1 hour and 30 mins to 2 hours	More than 2 hours
TV							
Video games							
Phone/tablets, etc. Computer							

Total Screen Time (Project team use only)

_____

Appendix K: Questions for Parents, Students, Student Volunteers, and Staff

Questions for parents (as they pick up students—seated at entrance):

1. Did you receive the handouts?

   _____

2. Were they helpful?

   _____

3. What was the most helpful hint from the handouts?

   _____

   _____

Interviews for students for round table discussion after the project implementation (2-3 students at a time)

1. Did you like/enjoy the activities in the "Let's Move Away from the Screen" project?
Prompts: information classes and activities?
Exercise activities?
Handouts sent home to parents?

_____

_____

_____

2. Would you like to have the project run again?

_____

4. What was the best thing you learned?

_____

_____

5. What was the thing you learned that you liked the least?

_____

_____

Interviews for high school students, staff, and volunteers after the project implementation (round table or individual interviews)

1. Did you like helping with the project?

   _____

2. Would you like to help with project again?

   _____

3. What worked best for this project?
   Prompts: information classes/activities?
   Exercise activities?
   Handouts sent home to parents?

   _____

   _____

   _____

   _____

4. What needed improvement?

   _____

   _____

   _____

5. What should be taken out of the project?

   _____

   _____

   _____

Appendix L: GVSU IRB "Let's Move Away From Screen" Exemption from Review

GRAND VALLEY STATE UNIVERSITY
www.gvsu.edu

DATE:	November 02, 2017
TO:	Andrea Bostrom
FROM:	Office of Research Compliance and Integrity
STUDY TITLE:	"Let's Move Away From Screen"
REFERENCE #:	18-093-H
SUBMISSION TYPE:	HRRC Research Determination Submission
ACTION:	Determination: Not Research
EFFECTIVE DATE:	November 02, 2017
REVIEW TYPE:	Administrative Review

Thank you for your submission of materials for your planned scholarly activity. It has been determined that this project does not meet the definition of research* according to current federal regulations. The project, therefore, does not require further review and approval by the Human Research Review Committee (HRRC).

A summary of the reviewed project and determination is as follows:
This project seeks to implement the new "Let's Move Away from Screen" health and wellness program at En Gedi (a community-supported after-school program in Cedar Springs, MI) and to seek feedback from the participants of the program to measure and improve the program effectiveness. Given that the study is designed solely to improve the En Gedi program, this project is not considered generalizable and therefore does not meet the federal definition of research. Please note, if the researchers later seek to generalize the results beyond the En Gedi program, HRRC review and approval would be required.

An archived record of this determination form can be found in IRBManager from the Dashboard by clicking the "_ xForms" link under the "My Documents & Forms" menu.

If you have any questions, please contact the Office of Research Compliance and Integrity at (616) 331-3197 or rci@gvsu.edu. Please include your study title and study number in all correspondence with our office.

Sincerely,
Office of Research Compliance and Integrity

*Research is a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (45 CFR 46.102 (d)).

Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains: data through intervention or interaction with the individual, or identifiable private information (45 CFR 46.102 (f)).

Scholarly activities that are not covered under the Code of Federal Regulations should not be described or referred to as research in materials to participants, sponsors or in dissemination of findings.

Appendix M: "LET'S MOVE AWAY FROM SCREEN" Parent Permission Form

1. PROGRAM'S DESCRIPTION AND PURPOSE

The program will be held at [redacted] for 6-8th grade students. The program focuses on healthy lifestyles—good foods and physical activity. It is a six-week course that meets two times a week for an hour. Students will participate in light physical activity for 30 minutes and attend a 30-minute health lesson. Parents will receive weekly handouts. At the beginning of the program, students will be asked to answer questions about their physical activity, screen time (TV, computers, and others), and the fruits and vegetables and soda pop they eat or drink. At the end of the six weeks the student will be asked the same questions about these activities. Also, at the end of the six weeks, you as a parent will be asked a few questions about the program and how it did or did not help at home.

II. GENERAL RISKS

The activities in the program have low risks. The physical exercise will be about as risky as taking a walk or some other lightly active exercise. If a student has food allergies, we need to know so other foods can be used instead. Every effort will be made to make exercise activities safe and to avoid healthy snacks that might cause an allergy. The after school's staff and a graduate student will work to make the project safe. The school-based clinic is available should there be any problem.

III. BENEFITS

The benefits of this program are its aims to teach about healthy living. This program does not claim to cure or treat any medical condition. Beyond this educational benefit to you and your child, you also have a chance to improve the programs here at "En Gedi".

IV. CONFIDENTIALITY

All personal and health information will be kept private and confidential. Neither your name, nor the name, address, or other information that identifies you will be a part of the project summary. The graduate student leading the project will write the summary that will go to "En Gedi" and the school-based health center.

By signing this consent, you agree that you have been able to ask questions and understand what you and your

child will be asked to do. You understand that you can stop being in this project at any time without any effect on you.

To help keep your child safe, please tell me if your child has any food allergies or activities he or she can't do.

Does this child have any food allergies? Circle the answer.

Yes No

If yes, list allergies _____

Does this child have physical activity restrictions? Circle the answer.

Yes No

If yes, list all conditions

_____

STUDENT ASSENT FORM "LET'S MOVE AWAY FROM SCREEN"

I have been told that:

1. I am allowed to stop any activity that makes me feel uncomfortable or unsafe.
2. I do not have to tell why I am not doing an activity, even if someone asks me.
3. I will not be forced to do anything that I do not want to do.
4. I am asked to do my best to follow all instructions.
5. If I do not understand a task then I may ask questions anytime I want.
6. Anything that happens in class is private.

"Let's Move Away From Screen" does not allow bullying. I will not tease or make fun of anyone else. I will treat everyone with kindness and respect. It is my choice to join this program. I fully read and understand everything in the permission form. I am aware that I can stop being part of this program at any time.

Child Participant Name _____

Participant's Signature _____

Participant's Parent Signature _____

Participant's Parent Name (Printed): _____

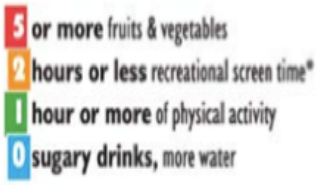
Witness's Signature: _____Data: _____

Andrea Bostrom **GVSU nursing faculty** **454 Cook-Devos Center for Health Sciences** **616-331-7172** **Email: bostroma@gvsu.edu**	**Human Research Review Committee** **Office of Research Compliance and Integrity** **1 Campus Drive** **Allendale, Michigan 49401-9403**

Appendix N: Letter for Parents

Date: 09/22/2017

Dear Families:



[redacted] *is pleased to announce a partnership with "Let's Move Away From Screen". The program is based on a nationally recognized program "Let's Go". "Let's Move Away From Screen" is centered around the common message of 5-2-1-0.*

"Let's Move Away From Screen" will focus on improving the nutrition and physical activity environment and adding the 5-2-1-0 behaviors into daily activities of your child/children. Please, don't hesitate to get involved or ask questions regarding the program. A graduate nursing student will answer any of your questions regarding the program during program implementation twice per week. You will be asked to sign a consent for your child's/children's participation in the program. There will be consent for participation sent to you. You are highly encouraged to participate in a program along with your child/children.

For more information about "Let's Move Away From Screen", email Oksana Lidke at lidkeo@mail.gvsu.edu

Sincerely,

Oksana Lidke DNP student, RN BSN
Grand Valley State University

Appendix O: Letter for Director of Honor Society Students

My name is Oksana Lidke. I am a graduate nursing student attending Grand Valley State University. As a fulfillment for my degree I will be implementing project at [redacted] an after school program for 6-8 grades. I would need your help twice per week for no more than 1 hour. The project will last for 6 weeks starting at the end of October. You are welcome to stay longer and help at [redacted] to earn more community hours. You also may approach Pastor Craig, [redacted] director and discuss volunteering opportunities at [redacted] throughout this academic year.

There are 2 main components of my project: physical activity and lessons related to health wellness. I would mostly need your help in helping with a discipline during activity. For example, when somebody disrupts the class or physical activity lesson. I would also, ask you to pass handouts during lesson or helping students with simple projects during class. My project should be fun for [redacted] students with main purpose to learn about healthy lifestyles. For you, it is a great opportunity for leadership within the school building. [redacted] is conveniently located in the Red Hawk building (door 10). You may walk to [redacted] right after your classes.

In return you will get sign by me verification for community hours during the implementation of my project. Pastor Craig can cosign the verification form for additional time spent at [redacted]. Please email me at oksana.lidke@gmail.com if you are interested to get more information.

Appendix P: Senior Service Verification Hours

Service Period: Start September 5th – December 15th
Submit form within two weeks of performing service.
Service Location: [redacted]

Student Name _____

Student Phone Number _____

Organization Name and Location _____

Organization Contact Person: Craig Owens/Oksana Lidke DNP(c), RN BSN

Organization Contact Phone _____

Dates and hours student worked _____

Brief Description of volunteer service performed _____

_____

Did the student meet your standards? Yes _____No _____

Signature of the contact person _____

Date: _____

Appendix Q: "Let's Move Away From Screen" Volunteer Consent Form

1. PROGRAM'S DESCRIPTION AND PURPOSE

The "Let's Move" program will be held at [redacted] for 6-8th grade students. The program focuses on healthy lifestyles –good foods and physical activity. It is a six-week course that meets twice per week. You will be asked to do several things to help a graduate nursing student with this program. These things will include helping to keep students focused and well-behaved per [redacted] rules, helping to work on simple projects, and participating in light physical exercise. You will receive the details about the project one week prior to its start. You will also be asked to answer a few questions at the end of the program.

II. GENERAL RISKS

The activities in the program have low risks. The physical exercise will be about as risky as taking a walk or lightly active exercise. The foods provided as snacks could pose an allergic reaction. Every effort will be made to make exercise activities safe and to avoid healthy snacks that might cause an allergy. The after school's staff and a graduate student will work to make the project safe. The school-based clinic is accessible should there be any problem.

III. BENEFITS TO BE EXPECTED

As a volunteer, you will have a chance to learn the content about healthy foods and exercise. You will also receive credit for community service if you are an honor society student. The graduate student will verify community service hours.

IV. CONFIDENTIALITY

All personal and health information will be kept private and confidential. Information will be deidentified (no names, addresses or other information that identifies you on the summary written by the graduate student). By signing this consent, you agree that you have been able

to ask questions and understand what you will be asked to do. You understand that you can stop working on the project at any time without any effect on you.

To help keep you safe, please tell me if you have any food allergies or activities you can't do.

Do you have any food allergies?

☐ NO

☐ YES

If yes, list all allergies

_____

Does you have any physical activity restrictions

☐ NO

☐ YES

If yes, please list all conditions

_____

Volunteer Signature _____

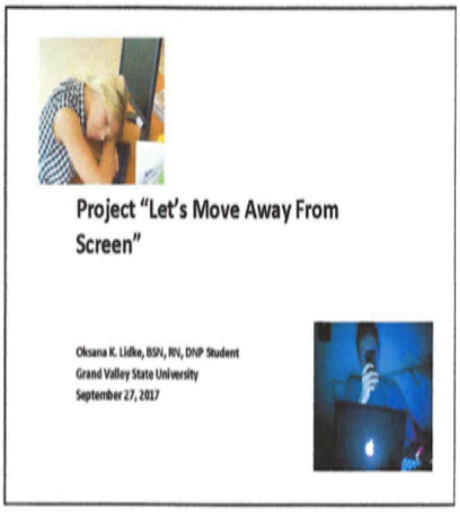
Volunteer Printed Name _____

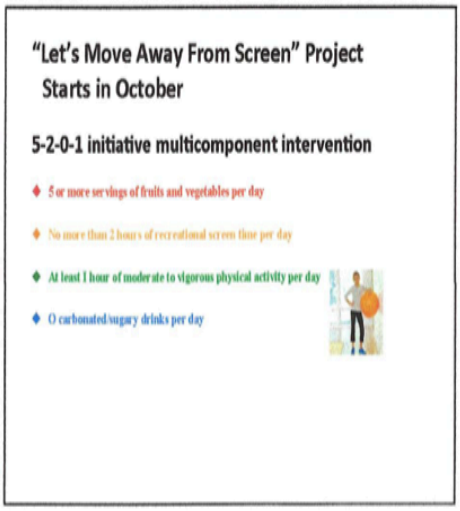
Signature of Parent/Guardian _____

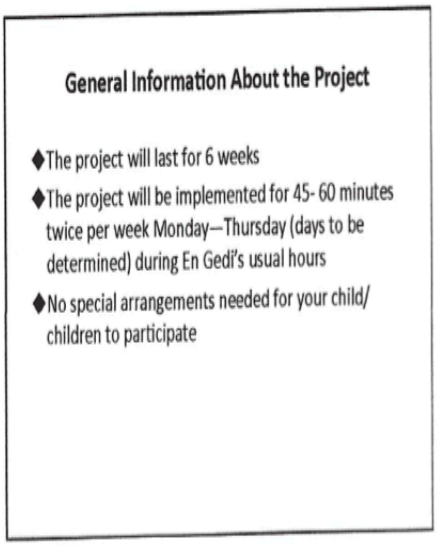
Printed Name of Volunteer/Guardian _____

Andrea Bostrom **GVSU nursing faculty** **454 Cook-Devos Center for Health Sciences** **616-331-7172** **Email: bostroma@gvsu.edu**	**Human Research Review Committee** **Office of Research Compliance and Integrity** **1 Campus Drive** **Allendale, Michigan 49401-9403**

Appendix R: Powerpoint for Parents







Several Purposes of the Project

- To involve students in moderate to vigorous physical activity
- Provide students with health education
- Educate students about screen time

Purpose of “Let’s Move Away From Screen” Project

- Weekly handouts for parents and students
- Weekly health/wellness lessons for students
- Structured moderate physical activity twice per week

What Do I need to Do for My child to Participate?

- Sign consent for participation for you child/children or yourself and your child/ children
- Parents and/or their child/children are able to withdraw from the project at any time